

Dairy Cattle Judging Techniques

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by

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Preface

DAIRY CATTLE JUDGING TECHNIQUES has been written for everyone who is interested in judging dairy animals. Based on years of experience in shows, in working with college, 4H, and FFA students, and in many breeders' and judging conferences, it is clear and basic enough for the student, and definitive and comprehensive enough for the advanced judge and the discriminating breeder. It has been the author's aim, throughout this book, to present a system of dairy cattle judging which will enable the judge to be precise and definite in rendering a correct decision.

Unfortunately, in the past, too many people have tried to teach judging without a clearly defined knowledge of the ideal types of dairy animals, and with little understanding of the *practical* importance of the various parts of conformation. A dairy animal is desirable only if it is *useful*, only if it can achieve a high standard of production and maintain that standard throughout a long life. The most competent judges will assess each animal with a particular eye toward its productive qualities.

The most successful and widely used method of judging dairy cattle is to compare each animal with a preferred standard or ideal, in all parts of conformation, emphasizing each part according to its importance in the animal's productivity. This is the system described in *Dairy Cattle Judging Techniques*. The ideal type for each breed is clearly defined, and full discussion is given to each part of conformation, always stressing the intimate relationship between ideal conformation and high productivity.

Numerous pictures illustrate every point under discussion. Special emphasis is put on giving precise reasons for placings, and a comprehensive list of appropriate descriptive terms is included.

Dairy Cattle Judging Techniques could not have been written without the help and cooperation of many breeders and friends. The author gratefully acknowledges their assistance and stimulating influence. The breed associations have contributed generously from their supply of material. Particular acknowledgment is made of the skill and cooperation of the famous and popular dairy cattle photographers, Harry Strohmeyer and John Carpenter. It was through their excellent work that many out-

standing photographs, from breeders of purebred cattle, were available to supplement the verbal material.

Author greatly appreciates the suggestions of his colleagues in the Department of Animal Husbandry at Cornell University, and the wholehearted cooperation of the many breeders who provided pictures of cattle illustrating the judging techniques described in this book.

GEORGE W. TRIMBERGER

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Dairy Cattle Judging Techniques

A Practical Philosophy of Judging

SUCCESS with dairy cattle depends upon a well balanced program of breeding for production and type. Conformation, health, and the life-time level of production are closely associated with breeding.

In order to be a good breeder and feeder and to cope with management problems, a dairyman must know how to judge and observe his cattle. If he cannot evaluate his cattle, individually and as a group, he lacks one of the basic requirements for a successful herd manager. Such knowledge is of practical use in choosing foundation cattle, in buying and selling, in culling to improve the herd, and particularly in selecting herd sires.

A good judge knows what characteristics are required for a long, useful life of high production and a low incidence of digestive and udder disturbances; he knows also that such characteristics are essential for efficient low-cost production.

Dairy cattle judging has been instrumental in arousing in many young people an interest in good dairy cattle. And, in addition to the practical benefits of judging, cattle shows have their own appeal for both the new and experienced breeder. Every show is dominated by an atmosphere of excitement and anticipation that cannot be duplicated by other agricultural events. The months of planning and preparation, of strain and anxiety culminate in a feverish intensity at the show. The show ring has made an important contribution to the improvement of type and to the growth of the purebred industry. Improvements and ac-

accomplishments in type can be recognized in the picture of the Aged Holstein Class at a recent National Dairy Cattle Congress (Fig. 1).

THE TECHNIQUE OF OBSERVING AND COMPARING WITH THE IDEAL

To be successful in evaluating and placing the individual animals in a class, one must have a thorough knowledge of the desirable conformation of all parts of the animal. This serves as an ideal or standard with which comparisons are made. The technique of judging is a combination of science and art, and it is dependent on the precision with which selections conform to a definite standard or pattern.

Once a judge develops the ability to see an animal quickly and accurately by recognizing all of the good and bad points, he must then learn the technique of making a good, sound judgment by practical reasoning. Because there are so many variations between individuals and classes, a set pattern for placing animals in the various classes is not practicable. The final decision involves practical reasoning and good judgment by comparison with the ideal or standard. So, judging provides fine experience and excellent training at all levels of participation. Judging is a stimulating game in which one observes the appearance and characteristics of a large number of animals and then ranks them comparatively on merit or desirability of type.

A good judge must be able to form a clear picture of a large number of individuals and retain the observations clearly, so he can make comparisons and rank a class largely from memory. To judge intelligently, one must have an intuitive knowledge of livestock.

The best judges usually come from farm backgrounds. They have had an opportunity for unlimited observations of the merits and demerits



FIG. 1. The Aged Holstein cow class at the national show, Dairy Cattle Congress, Waterloo, Iowa. (Courtesy Holstein-Friesian Association, Brattleboro, Vermont)

of individual animals. To observe how certain characteristics change during the normal lifetime of an animal is both interesting and educational. This is demonstrated by Figures 2 to 5, which show the great Jane of Vernon at 3, 4, 11, and 15 years of age. This outstanding cow has meant more to the future of the Brown Swiss breed than any other individual dairy cow has meant to its own breed. Her greatness was in her excellent type, her producing ability, her transmitting qualities, her longevity. In her long lifetime she effected a great improvement in the breed through her many descendants.

A good judge must know the general type that prevails in the cattle population. He should observe a large number of cattle in order to learn what constitutes a normal population. Once a judge is able to recognize and decide whether a particular individual is superior or inferior, he can decide whether the individual ranks in the upper 25, 10, or 5 per cent of the population, or whether she is average or even inferior when compared with the entire cattle population.

PRACTICAL ADVANTAGE OF GOOD TYPE

A good dairy cattle judge must have a practical viewpoint and base his selections for individual cattle on the purpose for which they are used. Emphasis on utility is important in the selection and improvement of dairy cattle. In using the analytical approach to evaluate the good and bad points, a good judge notes those that will improve with time and discriminates against those that will become less desirable with age.

If the proper emphasis in the selection of dairy cattle is placed on type, the kind of a cow that can stand up under high production year after year should result. Published data show that for all breeds the average dairy cow remains in the herd for less than five years after she reaches productive life, and the cumulative dry periods during this time usually add up to more than one year.

Type is best appreciated when differences from old age and wear start to appear. Many cows are fine in all respects up to seven or eight years of age, and then they suddenly seem to decline. At this time type—body capacity, udder conformation, leg structure, muscle tone, constitution or general strength, and many other characteristics of conformation—becomes increasingly important for longevity or sustained lifetime production.

Many of the body characteristics that are stressed in considerations of desirable type play an important part in high production. For example, a good dairy cow seldom has much excess flesh on her frame. If she is to function well as a machine for turning roughages and concentrates into



FIG. 2. Jane of Vernon, Wisconsin Grand Champion, at the age of 3 years. Her outstanding dairy quality, the smoothness of her body conformation, and the unusually well-shaped and attached udder at this young age show that she is destined to become a great cow. (Courtesy Brown Swiss Breeders Association, Beloit, Wis.)



FIG. 3. Jane of Vernon at 4 years old when she won the Grand Champion award at the Dairy Cattle Congress. She repeated this until she had won for 5 consecutive years. At the age of 4 years she also set the world's record with 23,569 lbs. of milk and 1075.6 lbs. of fat. (Courtesy Brown Swiss Breeders Association, Beloit, Wis., and reprinted with permission from John Wiley & Sons, Inc., New York, N. Y.)



FIG. 4. Jane of Vernon at the age of 11 years. Her marvelous type gives her the bloom and smoothness of a younger cow. At this age, her desirable dairy character, smoothness and blending of parts, the depth and neatness of barrel, the nearly perfect udder, and the strength of bone in her ideal legs do not show any wear from her world record performance as a young cow. Other high records that followed gave her 2 records of over a 1000 lbs. of fat each with well over 20,000 lbs. of milk. (Courtesy Brown Swiss Breeders Association, Beloit, Wis.)



FIG. 5. Jane of Vernon at the advanced age of 15 years still displays unbelievably good type. Her head, neck, shoulders, body, top line, and legs show desirable signs of advanced age. The dip in her loin and pelvic region results from age. However, her udder displays faultless attachments, levelness of floor, and an ideal teat arrangement. (Courtesy Brown Swiss Breeders Association, Beloit, Wis.)

milk, her middle must be large enough to provide the capacity for a combined workshop and storehouse. Likewise, the proper kind of udder is necessary for high production and resistance to the many infections and bruises to which all cows are exposed from time to time.

Type is more important today than ever before because disease control measures permit special emphasis on having the best kind of cow for high production during a long lifetime. Good type should be combined with breeding for high production, proper disease resistance, and recognized management procedures to permit full and efficient use of animals with outstanding conformation. When good type appears with these other qualities, eye appeal helps to sell surplus males and females. That the owner and his employees get more satisfaction and enjoyment from cattle of good type is often reflected in better care and higher economic returns.

The breeders of dairy cattle on the British Isles and in Europe have recognized and emphasized type for many years. The trend of foreign breeders to continue this emphasis under difficult economic conditions during the war years indicates that type is of practical significance, not just a hobby. The higher prices prevailing in the United States for dairy cattle of good type indicate a general acceptance of the importance of this factor by dairymen.

QUALITIES OF A GOOD JUDGE

Desirable characteristics for success in judging dairy cattle are:

1. "Livestock-mindedness" and a desire to know dairy cattle thoroughly.
2. A clear knowledge of the ideal or standard type, and an ability to recognize desirable and undesirable points of conformation.
3. Quick and accurate powers of observation.
4. Ability to form a mental image of many individual animals and to rank them by making comparisons.
5. Reasoning power that takes into account practical considerations.
6. Ability to reach a definite decision based on sound judgment.
7. Extreme honesty and sincerity, in order to avoid bias or prejudice. Judges are selected on character, including courage and honesty.
8. Steady nerves and confidence in one's ability to make close independent decisions based entirely on the merits of the animals. Students in practice and in contests should always work independently. A good philosophy for all judging is to do the best work possible at the time and to have no regrets about the results or accomplishments.
9. Evaluate and rank the individual animal according to her appearance on the day of judging, regardless of her rank at a previous show.

10. Sound knowledge acquired through practice and *experience*, in order to give effective reasons for decisions.
11. A pleasant and even temperament. Good judges, however, do not fraternize with exhibitors or friends along the ringside.
12. *Firmness to stand by and defend one's placings without offending or* in any way implying that one's decisions are infallible.

Skeletal Structure and Parts of a Dairy Cow

THE extensive use of descriptive terms is necessary to make judging educational and to explain to others the judgment involved in placing a class. The ability to explain the major and minor differences that justify the placings of various individuals is as important as the final decision itself. This is possible only if the judge knows the name of every part of a dairy cow (Fig 6).

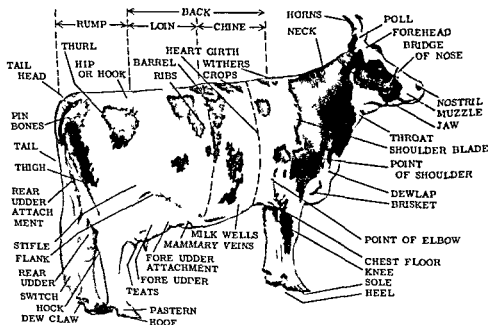


FIG 6 Parts of a dairy cow

A good judge of dairy cattle must be so expert that he can literally "see through" a cow. In this respect, the ability to visualize the skeletal structure or framework of a cow is a distinct advantage. For example, when one evaluates such characteristics as smoothness of shoulder, width, length, and levelness of the pelvic region, or strength of the pasterns and set of the hind legs, the importance of the condition observed is much easier to decide upon if one has a fundamental knowledge of the bone structure supporting and shaping these parts (Fig. 7). In the final analysis, a judge must have a clear conception of the function of the skeleton in order to know the gross structural form that gives shape and size to the dairy cow and bull. The frame determines durability, strength, and longevity.

Occasionally, a judge will want to determine the approximate age of an individual by examining the teeth. This is possible if one knows when the permanent teeth replace the temporary or milk teeth. G. W. Pope describes this in U.S.D.A. Farmers' Bulletin 1721.

A mature cow has thirty-two teeth, eight of which are incisors located on the lower jaw. The dental pad, a thick layer of hard palate, takes the place of incisor teeth on the upper jaw. Two of the central incisors on the lower jaw are called pinchers; the next two, first intermediates; the third pair, second intermediates or laterals; and the outer pair, the corners.

The calf is born with two or more incisors of the first set, or temporary

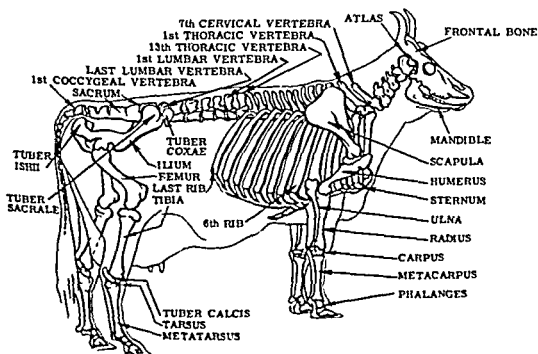


FIG. 7. Skeleton of a dairy cow.

teeth, and the rest appear during the first month. The sequence in which the permanent teeth replace the first set (Fig. 8) when the cow is from two to five years of age is shown in Figures 9 to 12.

Beyond 5 years the approximate age can be guessed by the amount of wear indicated by the permanent teeth. Between 5 and 6 years the perma-



FIG. 8. All of the temporary or milk teeth have appeared in the calf at one month.



FIG. 9. As the heifer approaches 2 years of age, the central pair of temporary incisor teeth (pinchers) is replaced by the permanent pinchers, which usually attain full development at 2 years.



FIG. 10. The permanent first intermediates, one on each side of the pinchers, are cut at about 2½ years and are usually fully developed at 3 years.



FIG. 11. The second intermediates, or laterals, are cut at 3½ years. They are on a level with the first intermediates and begin to wear at 4 years.



FIG. 12. The corner teeth are replaced at about 4½ years, so at 5 years of age the cow has a full complement of incisors with the corners fully developed.



FIG. 13. Constant wear has reduced the internal face of the incisors to stubs at 12 years of age. This condition becomes more marked with increasing age.

nent pinchers begin to level. Wearing becomes more noticeable at 6 years when both pairs of intermediates become partially leveled and the corner pair begin to show wear. Noticeable wear of the pinchers is evident at 7 to 8 years; of the middle pairs, at 8 to 9 years; and of the corner teeth, at 10 years. As the cow advances in age from 6 to 12 years, the rounded contour of the teeth is gradually lost, and the line of the lower teeth becomes nearly straight by the twelfth year. Usually, at 12 years the teeth are distinctly separated, triangular in shape, and worn down to stubs (Fig. 13).

Use of the Unified Score Card for Type Evaluation

THE score card periodically revised and brought up to date, has played a vital part in the development of the modern viewpoint on type. At one time each of the five dairy breeds had a separate and distinct score card and no two were alike. Today, the points for evaluation of dairy type and body conformation are the same for Ayrshire, Brown Swiss, Guernsey, Holstein and Jersey. This was accomplished through the work of a committee of the Purebred Dairy Cattle Association.

The adoption of the unified score card was based on the fundamental concept that a good dairy animal has certain common characteristics that are more basic than her particular shape, color, size and other breed characteristics. The committee acted wisely in devising a score card that uniformly considers the basic points for all breeds and at the same time, takes into account the characteristics that account for the differences in the individuality and general appearance of each breed.

Adoption of the unified score card has also done much to correct the old problem of comparing in the show ring the distinctly different types that are found in different parts of the country. This difficulty has gradually disappeared and now cattle from California and other western states for instance can compete with cattle from the East and the Midwest at a Midwestern show. All breeders emphasize the same general points of body conformation and dairy refinement.

Score cards for dairy cows and dairy bulls as approved by the Purebred Dairy Cattle Association and the American Dairy Science Association are

reproduced below with the permission of the secretary of the Purebred Dairy Cattle Association. His courtesy in granting this permission is recognized and appreciated.

DAIRY COW UNIFIED SCORE CARD

GENERAL APPEARANCE—80 POINTS

Attractive individuality, with femininity, vigor, stretch, scale, harmonious blending of all parts, and impressive style and carriage. All parts of a cow should be considered in evaluating a cow's general appearance

- | | | |
|------|---|---|
| (10) | { | <p>Breed Characteristics *</p> <p>Head—clean-cut, proportionate to body.</p> <p>Muzzle broad with large, open nostrils.</p> <p>Jaws strong.</p> <p>Eyes large and bright.</p> <p>Forehead broad and moderately dished; bridge of nose straight.</p> <p>Ears medium size and alertly carried.</p> |
| (10) | { | <p>Shoulder Blades—set smoothly and tightly against the body.</p> <p>Back—straight and strong; loin—broad and nearly level.</p> <p>Rump—long, wide, and nearly level from <i>hook bones</i> to <i>pin bones</i>; clean-cut and free from patchiness.</p> <p>Thurls high and wide apart.</p> <p>Tail Head set level with backline and free from coarseness.</p> <p>Tail slender.</p> |
| (10) | { | <p>Legs and Feet—bone flat and strong, pasterns short and strong, hocks cleanly molded.</p> <p>Feet short, compact, and well rounded, with deep heel and level sole.</p> <p>Fore Legs medium in length, straight, wide apart, and squarely placed.</p> <p>Hind Legs nearly perpendicular from hock to pastern from the side view, and straight from the rear view.</p> |

DAIRY CHARACTER—20 POINTS

Evidence of milking ability, angularity, and general openness without weakness; freedom from coarseness, giving due regard to period of lactation.

- | | | |
|------|---|---|
| (20) | { | <p>Neck—long, lean, and blending smoothly into shoulders; clean-cut throat, dewlap, and brisket.</p> <p>Withers—sharp.</p> <p>Ribs—wide apart; rib bones wide, flat, and long.</p> <p>Flanks—deep and refined.</p> <p>Thighs—incurving to flat, and wide apart from the rear view, providing ample room for the udder and its rear attachment.</p> <p>Skin—loose and pliable.</p> |
|------|---|---|

BODY CAPACITY—20 POINTS

- Relatively large in proportion to size of animal, providing ample capacity, strength, and vigor.
- (10) { Barrel—strongly supported, long, and deep; ribs highly and widely sprung; depth and width of barrel tending to increase toward rear.
- (10) { Heart Girth—large and deep, with well sprung fore ribs blending into the shoulders; full crops; full at elbows; wide chest floor.

MAMMARY SYSTEM—30 POINTS

- A strongly attached, well balanced, capacious udder of fine texture indicating heavy production and a long period of usefulness.
- (10) { Udder—symmetrical, moderately long, wide, and deep; strongly attached, showing moderate cleavage between halves; no quartering on sides; soft, pliable, and well collapsed after milking; quarters evenly balanced.
- (6) { Fore Udder—moderate length, uniform width from front to rear and strongly attached.
- (7) { Rear Udder—high, wide, slightly rounded, fairly uniform width from top to floor, and strongly attached.
- (5) { Teats—uniform size, of medium length and diameter, cylindrical, squarely placed under each quarter, plumb, and well spaced from side and rear views
- (2) { Mammary Veins—large, long, tortuous, and branching.

NOTE. Because of the natural undeveloped mammary system in heifer calves and yearlings, less emphasis is placed on mammary system and more on general appearance, dairy character, and body capacity. A slight to serious discrimination applies to overdeveloped, fatty udders in heifer calves and yearlings.

* Ayrshire Characteristics

Strong and robust, showing constitution and vigor, symmetry, style, and balance throughout; characterized by strongly attached, evenly balanced, well shaped udder.

Color—Light to deep cherry red, mahogany, brown, or a combination of any of these colors with white, or white alone, distinctive red and white markings preferred, black or brindle objectionable.

Size—A mature cow in milk should weigh at least 1200 lbs.

Horns—Inclining upward, refined, medium length, and tapered toward tips No discrimination for absence of horns.

* Brown Swiss Characteristics

Strong and vigorous, but not coarse Size and ruggedness with quality desired
Extreme refinement undesirable.

Color—Solid brown varying from very light to dark. White or off-color spots objectionable. Females with any white or off-color markings above the under-side of the belly, or with white core in switch do not meet color standards of the Brown Swiss breed, and shall be so designated when registered. Pink noses and light streaks up the side of the face objectionable.

Size—The minimum weight for mature cows should be about 1400 lbs.

Horns—Incurving and inclining slightly up. Of medium length, lacking coarseness, tapering toward tips. Polled animals not barred from registry. No discrimination for absence of horns.

* Guernsey Characteristics

Size and strength, with quality and character, desired.

Color—A shade of fawn with white markings clearly defined. Skin should show golden yellow pigmentation. When other points are equal, a clear (buff) muzzle will be favored over a smoky or black muzzle.

Size—A mature cow in milk should weigh at least 1100 lbs. "In milk" means normal condition after having been in milk from three to six months.

Horns—No discrimination for absence of horns.

* Holstein Characteristics

Rugged, feminine qualities in an alert cow possessing Holstein size and vigor.

Color—Black and white markings clearly defined. Color markings that bar registry are solid black, solid white, black in switch, black belly, black encircling leg touching hoof head, black from hoof to knee or hock, black and white intermixed to give color other than distinct black and white.

Size—A mature cow in milk should weigh at least 1500 lbs.

Horns—Inclining forward, incurving, small at base, refined, medium length, and tapering toward tips.

* Jersey Characteristics

Sharpness with strength indicating productive efficiency.

Color—A shade of fawn, with or without white markings.

Size—A mature cow in milk should weigh about 1000 lbs.

Horns—Incurving, refined, medium length, and tapering toward tips. No discrimination for absence of horns.

DAIRY BULL UNIFIED SCORE CARD

GENERAL APPEARANCE—45 POINTS

Attractive individuality, with masculinity, vigor, stretch, and scale, harmonious blending of all parts, and impressive style and carriage. All parts of a bull should be considered in evaluating a bull's general appearance.

- Breed Characteristics *
- (15) { Head—clean-cut proportionate to body
 Muzzle broad with large open nostrils
 Jaws strong
 Eyes large and bright
 Forehead broad and moderately dished, bridge of nose straight
 Ears medium size and alertly carried
- (15) { Shoulder Blades—set smoothly and tightly against the body
 Back—straight and strong loin—broad and nearly level
 Rump—long wide and nearly level from *hook bones* to *pin bones*
 clean cut and free from patchiness
 Thurls high and wide apart
 Tail Head set level with backline and free from coarseness
 Tail slender
- (15) { Legs and Feet—bone flat and strong pasterns short and strong hocks
 cleanly molded
 Feet short compact and well rounded with deep heel and level
 sole
 Fore Legs medium in length straight and wide apart, squarely
 placed
 Hind Legs nearly perpendicular from hock to pastern from the
 side view and straight from the rear view

DAIRY CHARACTER—30 POINTS

- Angularity and general openness without weakness freedom from coarseness
- (30) { Neck—long lean with medium crest and blending smoothly into
 shoulders clean cut throat dewlap and brisket
 Withers—sharp
 Ribs—wide apart rib bones wide flat and long
 Flanks—deep and refined
 Thighs—incurving to flat and wide apart from the rear view
 Skin—loose and pliable

BODY CAPACITY—25 POINTS

- Relatively large in proportion to size of animal providing ample capacity strength and vigor
- (12) { Barrel—strongly supported long and deep ribs highly and widely
 sprung depth and width of barrel tending to increase toward rear
- (13) { Heart Girth—large and deep with well sprung fore ribs blending
 into the shoulders full crops full at elbows wide chest floor

* Breed Characteristics

The individual breed characteristics for bulls are the same as those listed for the cows except that the horns are listed as medium size at the base Weights

for a mature bull in breeding condition are listed as follows:

Jersey—1500 lbs.
Guernsey—1700 lbs
Ayrshire—1850 lbs
Brown Swiss—2000 lbs.
Holstein—2200 lbs.

PRACTICAL APPLICATION

Show ring judging or actual selections on the farm are not accomplished by the aid of a score card. However, the score card serves as a guide, and a complete knowledge of it will be useful both to the beginner and to the experienced judge.

In actual judging, the values assigned to points on the score card are not always used to arrive at a final decision. The degree of deviation from the ideal must be given careful consideration. For example, feet and legs are assigned a total of ten points. A particular animal with very bad feet and legs which impair the function and actually shorten the life of the animal will be discriminated against much more than indicated by the ten points on the score card. The characteristic is so deficient that it does not permit complete use of the other parts of conformation. In this case, the final judgment is based on the various conformation characteristics, as they affect the productive capacity of the cow.

4

Comparative Judging Techniques and Type Standards

MANY of the fundamentals of successful comparative judging are given in the Preface and Chapter 1. In brief, comparative judging refers to ranking a number of individuals in order of preference according to type, or, in other words, show-ring judging. As has been pointed out, this judging must always emphasize the practical considerations and accomplishments in breeding a more useful cow. Beauty of conformation is not the only factor. Good livestock breeders love their cattle and the work associated with them. This devotion is often reflected in a better performance.

Accomplishments in breeding for outstanding type are demonstrated in Figures 14 and 15. The three cows in Figure 14 represent a 3-generation group, and each has won the coveted Grand Champion Award at the National Brown Swiss Show.

The nine outstanding young cows pictured in Fig. 15 are all daughters of Wonderful Advancer. They possess great uniformity of type which approaches the ideal. Collectively, they are an impressive group and show what can be accomplished by a breeding program which emphasizes the correct type.

IDEAL TYPE STANDARDS

A successful judge is thoroughly familiar with every detail of the correct or ideal type standard. He evaluates and selects according to this standard. Figures 16 to 21 show outstanding cows of each breed.



FIG 14 Accomplishments in a breeding program for outstanding type and production are shown by this 3 generation group of Grand Champions at the National Brown Swiss Show. Individually, these 3 cows demonstrate that the genetic factors responsible for their good type are fixed from years of breeding and can be transmitted from one generation to another. Each cow has produced over 1075 lbs of fat (Courtesy Lee's Hill Farm, New Vernon, N. J)



FIG 15 These 9 daughters of Wonderful Advancer show extreme uniformity for the correct type. All 9 daughters are 3 years of age or less. Four of them made up a winning Get of Sire at the National Jersey Show when their sire was only 5 years of age. At a later date all 9 daughters classified Excellent. Their first 41 records on 2x averaged 9192 lbs milk, 484 lbs fat. These 9 individuals had 65 progeny, 41 of which classified with an average score of 87.25%. This is a demonstration of breeding uniformly for the correct type, which can be accomplished only from selection according to a definite type standard. (Courtesy American Jersey Cattle Club, Columbus, Ohio)

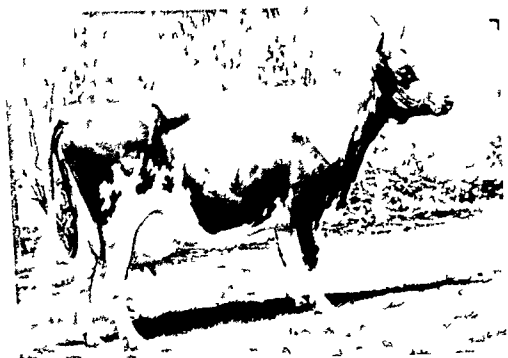


FIG 16 A noted Ayrshire cow of superior type and producing ability. Classified Excellent and winner of the Grand Championship at the National Dairy Show she had a lifetime record of 137 508 lbs of milk, 5685 lbs of fat. Her graceful carriage, dairy character, combined with strength, her straight top line, deep body, strong but refined legs with correct set, and her general balance, symmetry, smoothness and breed character are especially impressive. (Courtesy Ayrshire Breeders Association, Brandon, Vt.)

For show ring judging major emphasis is placed upon the practical useful points of conformation in combination with beauty. For type classification on the other hand beauty is less important. In comparative judging such characteristics as soundness, breed character, symmetry and balance plus bloom and beauty as possessed by a cow in the prime of life are given more weight than in type classification where allowance is made for the age of a cow.

BREED TYPE STANDARDS

Type refers to an ideal or standard of perfection which combines all the body characteristics that contribute to the usefulness of dairy animals. All the cows pictured (Figs 16 to 20) have these useful characteristics as indicated in their similarity of good udders, deep strong bodies with plenty of refinement, dairy quality combined with smoothness, straight

top lines, and good legs which fit the rest of their bodies. In addition to these common denominators of type possessed by all five cows, they have definite breed individualities

Breed type includes the desirable characteristics of conformation mentioned above, plus specific characteristics that distinguish one breed from another, including color, size, shape, style, and many other traits. These characteristics are so definite that the experienced judge only needs to see the outline of an individual to identify the breed. The term *breed character* is used to describe this distinctiveness in conformation. Some breeds are more distinctive than others, and hence show more specific breed character.

Breed character is most important for Jerseys, who are very distinctive in their type. Ayrshires are a close second, followed by Guernseys, in



FIG. 17. This Brown Swiss cow combines exceptionally good breed and dairy character with a smooth body and unusually good udder to make her an excellent representative of the breed. She has demonstrated her productive capacity with high records, several of which are well over 900 lbs. of fat. Her outstanding type has been recognized by an Excellent classification for all points. She won the Grand Championship at the National Brown Swiss Show at Waterloo, Iowa, for two successive years. She also won the Grand Championship at the National and International shows in successive weeks. (Courtesy Lee's Hill Farm, New Vernon, N. J.)



FIG. 18. A famous Guernsey cow with superb dairy character in a breed recognized as possessing uniformly good dairy character. Her production has been consistently high over a period of years, with several records of over 800 lbs. of fat. This Excellent cow has an Excellent dam and three maternal sisters which officially classified Excellent. Her great depth of body with openness of ribbing, combined with sharpness and general strength throughout, provides this cow with exceptional productive and transmitting powers. (Courtesy McDonald Farms, Cortland, N. Y.)

which distinctiveness in breed character is important for comparative judging also. Holsteins and Brown Swiss are about equal in breed character, and it is not emphasized as much with them. They are larger breeds and size is more important. Actually, breed character exerts more weight in deciding placings for the smaller breeds.

Jersey character

Desirable breed character in Jerseys depends on refinement and quality, starting with a well-dished head displaying sharp, well-defined features. This general pattern of refinement is followed throughout the body conformation, but is combined with strength. Freedom from coarseness and excess fleshing is very important. Unsightly fat deposits on hips, pins, and other parts are not removed as readily from Jerseys as from the larger breeds. The special refinement possessed by the Jersey, combined with a deep body and good udder, is very characteristic of the breed. If Jerseys are too coarse and rugged, they lose their best breed qualities. The Jersey cow breeder is more concerned with *efficiency* of production than with the exceptionally high milk production levels which are sought in the larger breeds.

Ayrshire character

In the Ayrshire, the emphasis in breed character is again on a specific type, which the inexperienced judge often does not recognize. This very



FIG. 19. This cow's great dairy and Holstein breed character and outstanding type for all parts of body conformation was acknowledged by her winning 9 Grand Championships the first 9 times she was shown. She was also 1st in the Best-Udder class. She belongs to an outstanding family and is an exceptional producer. At 6 yrs. 9 mo., in 305 days on 2x, she produced 21,179 lbs. of milk, 3.88%, 821 lbs. of fat. Her first 4 records on 2x all 10 months or less averaged 734 lbs. of fat. (Courtesy Woodbourne Farms, Dimock, Pa.)

important breed character consists of alertness, style and symmetry, clean cutness, and sharp features throughout, with particular strength and smoothness.

Guernsey breed type

The Guernsey breed is generally recognized as displaying the most dairy character and more openness of ribbing than any of the other breeds. This quality, including sharpness and freedom from excess fat accumulation, is given an important place in their specific breed type. General refinement with plenty of strength, together with the proper kind of head and neck, is also emphasized to give the Guernsey individuality in breed type.

Holstein and Brown Swiss breed character

In the two large breeds, size and ruggedness without coarseness are given emphasis for the preferred type. The characteristic scale with the proper degree of dairy refinement is important to these breeds. This gives them a suitable machine for uniformly high milk production, for which both breeds are generally recognized. To maintain this breed characteristic, they should have strength without sacrificing too much dairy temperament and quality. If an individual lacks scale and a good strong frame, she is too frail to withstand the strain of year-after-year production. If she is too coarse, she lacks dairy quality, and the odds are

against her reaching and maintaining the high peak of production expected from the larger breeds. Oversized animals require too much feed. To produce efficiently the extremely large cow must meet production requirements beyond the expected average. Such demands work a hardship on the cow. In addition the oversized animal needs larger than normal housing space. For these reasons the larger breeds have a specific size which is considered correct.

Although the Holstein and Brown Swiss breeds have many characteristics in common they retain a distinctive breed type which must be considered in judging. Generally the Holsteins are deeper in the fore rib whereas the Brown Swiss show more spring of rib. Thus depth of ribbing is given more emphasis in Holsteins and a flat rib is not tolerated in judging Brown Swiss. A flat rib would tend to make the Brown Swiss too frail. They are generally considered to have the most rugged frame and build among the dairy breeds. Dairy character and quality however, should be given major emphasis in Brown Swiss judging since it is listed



FIG 20 This Excellent, Gold Medal Grand Champion Jersey cow possesses the type characteristics desired by the Jersey breed. She has a great deal of refinement and Jersey character but at the same time, displays a deep, strong body with a capacious udder that is very shapely and well attached both fore and rear. This Jersey cow was 3 times Grand Champion and twice Reserve at national shows. While on the show circuit, at 8 yrs 4 mo, in 305 days on 2x milking she produced 13 825 lbs of milk and 621 lbs of fat. She is the dam of 3 Excellents, including a Grand Champion bull and Grand Champion cow at shows of national or international scope.

as highly desirable. Remarkable strides have been made in obtaining dairy quality and high production in this breed so that it can compete successfully with Holsteins.

The Brown Swiss have more ruggedness in type, especially strength of bone. As a group, they have easily the most desirable set and strength of legs of all the dairy breeds. Less emphasis is given to general refinement as compared with Holsteins, especially in clean-cutness of head and neck. The superfluous, loose skin in the region of the throat and the heavy dewlap are characteristic of the Brown Swiss, and no discrimination is made for a moderate amount of this. In the South and other regions of warmer climate it was once thought that this served as a radiator in helping the animals to keep cool, but this notion is not given much credence any more.

Although it is not necessary to emphasize breed character of Holsteins as much as for other breeds, they have a distinct type. It denotes a large well-framed cow, with ample strength and depth of body to enable her to consume huge quantities of roughage. Breeders prefer to have this strength combined with a definite size, smoothness, balance, and blending of parts, together with a straight top, good udder, and desirable legs.

The fundamentals for evaluation of type are much the same for the various breeds, as mentioned in the discussion of the unified score card. However, considerations of breed type as discussed in this chapter must be included for comparative judging. Allowance for this is made on the score card by the points assigned to breed character in the General Appearance section.

IMPORTANCE OF PROPER EVALUATION

In comparative judging each individual must be properly analyzed and evaluated before comparisons can be made. To illustrate the techniques involved in this procedure, the individuals in a class of four Brown Swiss cows will be analyzed and placed, and a set of reasons presented to justify the placing.

The correct analysis of an individual is based on the proper evaluation of each part of the cow as compared to an established type standard. The judge cannot evaluate properly unless he has an accurate knowledge of what constitutes the correct type for each part of body conformation, and of all deviations from this established standard. To help the beginner acquire this skill of systematic analysis and evaluation, the next nine chapters are devoted to a discussion of desirable and undesirable features of the more important parts of conformation. When this information is clearly understood, the analysis of an individual becomes easy, and a rank in a class can be established without any difficulty.

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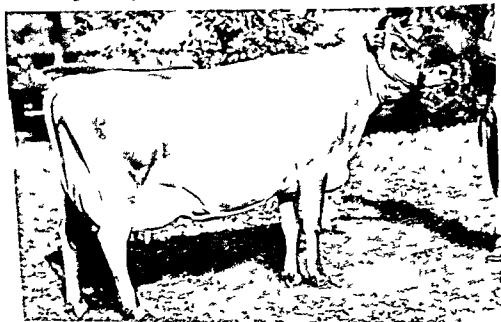


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When this technique is used either for teaching or for judging, a correct procedure is assured. If students and other judges train themselves to analyze the individuals in a class properly, before ranking them, they will make fewer mistakes and be more successful in their judging.

The best way to learn judging is to master the correct analysis of each individual at the outset. The placing is often evident after the correct analysis and the proper evaluation of the individual animals has been made. This technique serves to give accurate, detailed reasons to satisfy

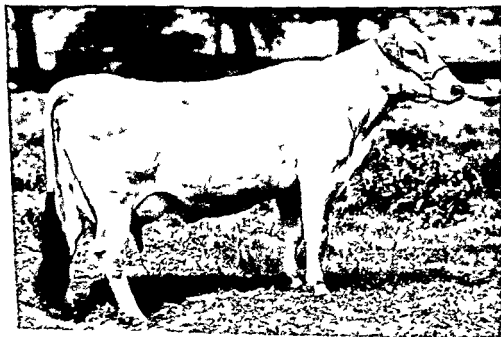


FIG 21 Cows No 1 and 2 of Brown Swiss Cow Class



participants in judging competition, exhibitors in the show ring, and spectators.

ANALYSIS OF EVALUATION

Each Brown Swiss cow shown in Fig. 21 is analyzed to demonstrate this technique.

Cow No. 1 lacks general strength and size for a representative of the Brown Swiss breed. She is shallow in body and especially deficient in the



FIG. 21. Cows No. 3 and 4 of Brown Swiss Cow Class.



heart Her top line is very unsatisfactory, she dips severely in the loin and falls off at the rump both sideways and from hip to pins The slant of her rump adds to her general deficiency in the pelvic region Her head is weak, especially about the muzzle, and lacks strength of jaw as viewed from the side Her udder is quite undesirable, the rear and fore udder have no strength of attachment It carries an ill shaped teat which is too long and pointed at the tip This cow is a trifle too long in her pasterns and shows a slightly sickle hock The only good point about the animal is her dairy character, but this is not enough to make up for her lack of general strength

Cow No 2, in contrast to No 1, is entirely too coarse This general coarseness, and lack of quality and dairy character are displayed throughout It is particularly noticeable in her coarse head, heavy compact neck, thick shoulder with a heavy point, and lack of sharpness at the withers In addition, she carries too much covering over the hooks, ribs, and pins She is also heavy and flat in her tail head and her bone structure is of poor quality, especially in her legs The hock has too much set and is therefore sickle On the other hand, she is a big cow with tremendous depth of body in the heart and rear rib She carries a capacious udder smoothly and strongly attached in fore and rear The teats are of convenient size, but they are not entirely perpendicular to the floor of the udder

Cow No 3 is very smooth with outstanding dairy quality She is of proper size for a Brown Swiss cow One is immediately impressed with her excellent combination of strength and refinement She carries very desirable Swiss character about her head and neck, and is sharp at the withers The shoulder is very deep, smooth at the point, though slightly lacking in firmness of attachment, as indicated by the position of the upper region of the forearm Her strong, deep body shows a desirable open rib She has an extremely pleasing dairy character, as indicated by a sharp withers, prominent clean hooks and pins, refinement through the thighs, and clean-cutness throughout her body The udder is very well attached carrying the teats properly In addition, she has perfect and correctly set legs with strong clean flat bones This cow is criticized only for a small prominence at the tail head and for a slight deficiency in firmness of shoulder attachment She is evaluated as a fine and outstanding Brown Swiss cow

Cow No 4 is pleasing in her great dairy character as evidenced by sharpness and refinement through her entire conformation This is indicated in her long, clean-cut neck sharpness of withers, hooks and pins, and refinement especially through the region of the thigh To the critical judge, this cow is a trifle prominent at the point of the shoulder and

loose in the shoulder attachment. The deficiency behind the forearm shows some lack of depth and strength of heart. She has satisfactory depth of rear rib but cuts up in a high flank. Good body and udder veining are displayed, but there is a lack of fullness and strength of rear udder attachment. The fore udder shows a rounding condition on both sides of the front teat, which indicates lack of firmness in the attachment. The teats are placed where they should be and are perfectly perpendicular to the floor of the udder. Her legs are correctly set, though not as strong of bone as those of the No. 3 cow. However, they do fit this particular individual and must be considered very good. She also has an exceptionally good top line, terminating in a superb rump, which must be considered one of the best for the breed. The flatness and levelness from hip to pins, the sharpness and refinement about the pins, and the level smooth tail head, combined with excellent length and width of rump, all add up to a very fine pelvic region.

Although considerable time is required to write and read the analysis of each cow, the experienced judge can evaluate, and fix a lasting mental impression of these points, in less than a minute per animal. This ability is acquired by practice and the experienced judge can look over the cow and record a mental image of the features he has observed.

Once these four cows have been analyzed and each part of the conformations evaluated, the placing is relatively easy. Classes that are difficult can be placed quite readily once they have been accurately analyzed.

To justify the rank of individuals in a class in competitive judging, a complete, well-organized set of reasons should be given. In the show ring, reasons should be given for the placings, but if time is short, they can be presented in summary form while the ribbons are passed out and the class is led out of the ring. To be effective under these conditions, the reasons must be well-organized and the judge must have them well in mind so that he can be concise and accurate on the major points which decided the placings.

REASONS FOR RANK OF EACH COW

This class of Brown Swiss aged cows (Fig. 21) easily places 3-4-2-1. In arriving at this placing, it was found that there were two distinct pairs in the class. The two top cows, 3 and 4, have so much of what is desired in a Brown Swiss cow that they must be recognized immediately as the top pair. Cow 3 places over 4 because she is larger and stronger, with a great advantage in depth of heart and fullness behind the forearm. She is stronger-framed, as the general strength indicates, especially in substance of bone in the legs. Cow 3 is also superior to cow 4 in her udder. The stronger rear udder attachment, smoothness and strength in fore attach-

ment, and levelness in floor of udder give 3 an unquestionable advantage here. In making this placing it is necessary to grant 4 a distinct advantage in top line, length, clean cutness, and refinement in neck, and a slight advantage in dairy character, a point on which both cows excel. No. 4 has a decided advantage in top line over No. 3; she is stronger and smoother in the back and far superior in the pelvic region. The advantage in rump which must be granted 4 over 3 is in levelness from hooks to pins, in flatness and fullness of rump because of higher thurls and width at pins, and in straightness on top of the rump, especially in refinement and smoothness about the level tail head. Cow 4 is unusually good in this region, and cow 3 must be criticized for a heavy, coarse, prominent tail head.

No. 4 places easily over No. 2 because of a great advantage in dairy character, strength of top, flatness and levelness of rump, and more desirable set to her hind legs. Cow 4 is much sharper, cut more cleanly, and refined throughout, in contrast to the coarseness and lack of quality in cow 2. The refinement and character about the head and the long, clean neck of No. 4 give her a distinct advantage in this region; No. 2 must be criticized for a coarse head and heavy, short neck. Both cows are prominent at the point of the shoulder and somewhat lacking in firmness of shoulder attachment, but 4 has an advantage here. A great contrast exists in the top lines, where 4 is nearly perfect and 2 dips in the loin and is very rough over the rump. A direct opposite can be observed in the rumps of these two cows. As has been mentioned, No. 4 displays an ideal rump, which is extremely level and very refined about the tail head. In contrast, cow No. 2 is down at the pins and up at the tail head, with a coarse, rough rump. The legs of 2 are somewhat sickle and entirely too coarse in bone, whereas 4 has a good set and quality of bone in her legs. In placing 4 over 2, it must be granted that 2 is a larger cow with considerable advantage in depth of body. No. 2 has stronger attachments of both fore and rear udder, but No. 4 has the advantage in placement of teats and in udder and body veining.

In placing the last pair, 2 has an advantage over 1 in that she is larger, with greater general strength throughout. She is much more deep-bodied, as her great depth of fore and rear rib indicates. In contrast, No. 1 must be criticized for shallow ribs both fore and rear. Cow No. 2 also has a distinct advantage in her udder, which is more capacious, with a higher, wider, and stronger rear udder attachment and a longer, more firmly attached fore udder. Her teats are of convenient size, whereas those of No. 1 are too large and, in general, too pointed or tapering at the tip. Although both cows are inferior in top line, especially the rump, No. 2 has an advantage in the back since 1 dips severely in the loin. The heads

of both cows are objectionable—that of No. 2 is coarse; of No. 1, weak and sleepy. However, 1 has an advantage in clean-cutness and refinement of neck. No. 1 is also granted an advantage in smoothness at the point of the shoulder and sharpness of withers. Since No. 2 is somewhat coarse throughout, carries excess flesh over the ribs, hooks, and pins, and has a thick neck, No. 1 must be granted a definite advantage in dairy character. She is sharp, clean-cut, and angular throughout. Both cows are faulty in the legs, but here again No. 1 must be granted an advantage in refinement and set to the hock, whereas the legs of No. 2 have coarser bones with sickle hocks.

Cow No. 1 places at the bottom of the class because she has a plain head and seriously lacks in strength, especially in depth of body; she dips in the loin, falls away at the rump, and definitely does not carry a good udder. She must be given credit, however, for displaying good dairy character, in that she is sharp, clean cut, and angular throughout.

5

Evaluation of Defects

ONE of the first procedures in judging a cow should be a check for the presence of any defects since these may have a marked influence on the placing. If defects are severe or constitute a disqualification they should be the deciding factor in determining the placing. Thus such characteristics are properly given first consideration among the parts of conformation.

A serious defect may be defined as a gross fault that impairs productive performance and/or is so important from the hereditary standpoint that the judge must be very critical in his evaluation. Some are considered serious enough to constitute a disqualification which means that the animal is not eligible to win a prize nor to be shown in the group classes. If it seems advisable to rank a disqualified animal in a class all the other individuals must be placed before the disqualified one is ranked. If several disqualified animals are in the same class they are ranked on their individual types after all the sound animals have been assigned a placing.

Deficiencies and defects may range in discrimination from slight to serious. It is the responsibility of the judge to determine the degree of discrimination and to assign the proper evaluation to each point of conformation under consideration. In evaluating a specific condition it is usual to consider its practical importance including the prevalence of the characteristic in herds and the attitude of dairymen toward it.

The Evaluation of Defects published by the Purebred Dairy Cattle

Association, has gained wide acceptance and is generally used as a standard in judging.

EVALUATION OF DEFECTS IN DAIRY COWS

Permission has been obtained from the Purebred Dairy Cattle Association to reproduce the following evaluation of defects for a dairy cow:

Eyes:

1. Total blindness: Disqualification.
2. Blindness in one eye: Slight discrimination.
3. Cross eyes: Slight discrimination.

Wry Face (face twisted sideways—see Fig. 22): Slight to serious discrimination.

Cropped Ears: Slight discrimination.

Parrot Jaw (overshot jaw—see Fig. 23): Slight to serious discrimination.

Winged Shoulders: Slight to serious discrimination.

Capped Hip (point of hip knocked down): Slight discrimination.

Tail Setting: Wry tail (tail head set to either side—see Fig. 24): Slight to serious discrimination.

Legs and Feet:

1. Lameness—apparently permanent and interfering with normal function: Disqualification.
—apparently temporary and not affecting normal function: Slight discrimination.
2. Bucked Knees: Slight to serious discrimination.
3. Evidence of arthritis, crampy hind legs: Serious discrimination.
4. Boggy Hocks: Slight to serious discrimination.



FIG. 22. A wry face, twisted sideways.

(Courtesy University of Minnesota, St. Paul, Minn.)

Absence of Horns: No discrimination.

Lack of Size: Slight to serious discrimination

Udder:

1. One or more blind quarters: *Disqualification*
2. Abnormal milk (bloody, clotted, watery): Possible disqualification. A slight to serious defect.
3. Udder definitely broken away in attachment: *Serious discrimination.*
4. A weak udder attachment: Slight to serious discrimination.
5. One or more light quarters, hard spots in udder, obstruction in teat (spider): Slight to serious discrimination.
6. Side leak: Slight discrimination.

Dry Cows:

In case of cows of apparently equal merit: Give preference to cows in milk.

Freemartin heifers: *Disqualification* unless proved pregnant.

Overconditioned: Slight to serious discrimination.

Temporary or Minor Injuries:

Blemishes or injuries of a temporary character not affecting animal's usefulness: Slight discrimination.

Evidence of Sharp Practice:

1. Animals showing signs of having been operated upon or tampered with for the purpose of concealing faults in conformation, or with intent to deceive relative to the animal's soundness: *Disqualification*
2. Uncalved heifers showing evidence of having been milked: *Serious discrimination*



FIG. 23. Parrot jaw, also referred to as overshot jaw. Side view and ventral view of jaw on yearling heifer. (Courtesy L. O. Gilmore and H. E. Kaesar, Columbus, Ohio.)



FIG. 24. A wry tail may mean the tail head is set either to the left or to the right. (Courtesy L. O. Gilmore, Columbus, Ohio.)



FIG. 25. Severe toeing-out of the rear legs places additional strain on the pasterns which are considered a vulnerable structure. (Courtesy L. O. Gilmore, Columbus, Ohio.)

EVALUATION OF DEFECTS IN DAIRY BULLS

The Purebred Dairy Cattle Association has published an evaluation of defects in dairy bulls corresponding to the one for the dairy cow. In general the majority of the points receive the same discrimination except:

Testicles: Bull with one testicle or with abnormal testicles: Disqualification.

SUMMARY OF DISCRIMINATIONS

It may be an advantage to summarize the evaluations as follows:

Disqualifications:

1. Total blindness.
2. Permanent lameness.
3. One or more blind quarters in cows.
4. Very abnormal milk from an impaired quarter.
5. Only one testicle or abnormal testicles in bulls.
6. Evidence of sharp practice.

7. Freemartin heifers, unless proved pregnant.

Serious Discriminations:

1. Wry face (marked).
2. Parrot jaw (pronounced).
3. Badly winged shoulders.
4. Very abnormal tail setting.
5. Bucked knees, blemished hocks, crooked hind legs, weak pasterns, badly bowed pasterns (Fig. 26), extreme toeing out in rear, or a marked spread of toe (Fig. 27).
6. Evidence of arthritis, crampy hind legs.
7. An extreme lack of size
8. Very abnormal milk or a partially impaired quarter.
9. Broken udder attachment.
10. Overconditioned.
- 11 Uncalved heifers showing evidence of having been milked.

Slight Discriminations:

1. Blindness in one eye.
- 2 A slight tendency toward a parrot, or overshot, jaw in a female.
3. Loose shoulder attachment with a slight tendency to wing.
4. Capped hip (point of hip knocked down).
- 5 Slightly wry tail or other slight deficiency about the tail setting.



FIG. 26. Bowed pasterns in the rear legs are caused by unequal growth of the phalanges, as indicated in the front and rear view picture. It may appear in different degrees and must be evaluated accordingly. (Courtesy Atkeson, Eldridge, and Ibsen, Manhattan, Kansas.)



FIG. 27. Spread toes on either the front or the rear feet may cause serious foot trouble if the spread is pronounced. (Courtesy Mead et al., Cal. Agr. Expt. Sta.)

6. Temporary lameness.
7. Cropped ears.
8. Slightly undersized.
9. Temporarily abnormal milk.
10. A tendency toward weakness in udder attachment.
11. Slightly unbalanced quarters.
12. Temporary or minor injuries which do not affect the animal's usefulness.

A disqualification places the individual at the bottom of the class. A serious discrimination involves a heavy penalty and has a marked effect on the placing, in contrast to a slight discrimination which exerts only a small influence in evaluation for the final placing.

It is conceivable that a slight discrimination will not change the placing of a good cow, especially when the class is not very close. In a very close class, however, in which the individuals are of approximately equal merit, a slight discrimination may influence the rank by several places. A serious discrimination usually places the individual in the lower half of the class, and frequently in about the middle of the lower half or three-quarters of the way down in the class. Many factors or differences in conformation must be considered in arriving at the final placing, but the above summary can serve as an approximate guide.

Head and Neck Characteristics

IN GENERAL, the head and neck reveal quite a bit about a dairy animal. Head and neck characteristics may vary considerably among individual cows, but points of strength or weakness in this region usually reflect similar characteristics throughout the entire body of the animal. The two cows pictured in Figures 28 and 29 demonstrate this feature. The cow with the stronger head and neck is also larger and displays greater depth of shoulder, a stronger body, and more strength of bone throughout her frame.

Disposition, strength, constitution, and quality are usually expressed in the head. A pleasant disposition and general strength normally guarantee good feeding qualities, which are becoming more important with the present-day methods of handling dairy cattle.

The proper kind of head and neck add a great deal to the conformation of an individual, and many of the specific breed characteristics are carried here. This is recognized on the dairy cow score card, with 10 points assigned to the head and breed characteristics. The dairy bull score card emphasizes the head and breed characteristics even to a greater extent by allotting 15 points to this from the 45 points designated for general appearance.

A clean-cut, alertly carried head delineates not only breed character but also dairy quality. A long, lean, well-defined, and smoothly attached neck displays true dairy character. A short, blocky head and thick neck show a tendency toward beefiness, and are usually found in an individual with a short, compact, and heavy body. As a rule this is associated with low production. A moderately long head usually indicates a large, open-ribbed body conformation, an extremely long head, however, may reflect a weak constitution, combined with too rangy a body and slow maturing

qualities. It should be mentioned that an occasional exception can be found to these general tendencies.

THE IDEAL HEAD AND NECK

The head should be of medium length, clean-cut, and strong; the muzzle should be broad with large, wide open nostrils and muscular lips. These characteristics reflect a strong constitution, good feeding qualities, and a satisfactory respiratory system. A lean, strong jaw indicates proper refinement combined with the strength necessary to consume and masticate the large quantities of feed required for sustained heavy production. Full, bright, but placid, eyes with a gentle expression display pleasant temperament, good health, and vigor. A broad, lean, and moderately dishd forehead shows intelligence, breed, and dairy character. To this should be added a straight bridge for the nose, a forehead of proper depth and width, with medium-sized ears which are alertly carried to give the correct balance and attractiveness to the head. Horns, if present, should possess the proper curve and inclination typical for the breed. For cows, they should be small at the base, refined to show quality of bone, medium length and tapering towards the tip. There is no discrimination for absence of horns.

The neck should be long, lean, clean cut, and strong with a neat attachment of the head on one end and blending smoothly into the shoulders and brisket on the other. The throat and dewlap should be clean cut, since this adds to the trimness and neatness of the individual. It is very important for the neck to have the correct dairy character. A short, thick, compact, and/or coarse neck usually shows poor dairy character and lack of productive ability.

A description similar to this can be used for bulls except that they are masculine and stronger in the head, have horns of medium size, and carry a crest on a much stronger neck.

DEVIATIONS FROM THE IDEAL

Characteristics of head and neck which deviate from the ideal, with the degree of discrimination indicated in parenthesis, include the following:

- Narrow, weak muzzle (serious).
- Long, narrow, weak head (serious).
- Small and restricted nostrils (slight to serious).
- Small, dull, deep set eyes (serious).
- Roman nose (too prominent bridge of nose) (slight).
- Weak, shallow jaw (slight to serious).



Fig 28 The strength, balance, and smoothness displayed in the head and neck of this cow are carried throughout her body conformation. Her great depth of body and general strength, combined with dairy quality, are admirable. This cow was officially classified Excellent six consecutive times (Courtesy Fairlawn Farms, Millis, Mass.)



FIG 29 This Guernsey cow was twice classified Very Good and Excellent on another occasion. However in comparison with the cow pictured in Fig 28 her eyes are less bright, her head lacks width and strength about the nose, openness of the nostrils, and is less muscular and not as wide about the muzzle. Her jaw and neck are not as deep and strong and the depth of body, general constitution and strength of bone especially in the legs reflect the same differences (Courtesy Fairlawn Farms Millis, Mass.)

- Short, shallow forehead (slight).
- Narrow poll (very slight).
- Pointed and/or too prominent poll (very slight).
- Plain head, lacking in dish, sharpness, and breed character (serious).
- Ears too small or too large (slight).
- Inherited notched ears (slight).
- Heavy, coarse horns (slight).
- Horns carrying wrong inclination for the breed (very slight).
- Thick, short head (slight to serious).
- Large, coarse head (serious).
- Listless or undignified carriage of head (slight).
- Short neck (slight).
- Thick, heavy neck (slight to serious).
- Too much dewlap, heavy brisket, lack of clean-cutness and refinement (slight to serious).
- Too prominent a neck, showing crestiness in a female (slight to serious).
- Ewe neck, lacking somewhat in strength (slight).
- Shallow, weak neck (serious).
- Neck lacking smoothness of attachment (slight).

BREED DIFFERENCES

The differences in breed character about the head, among the various breeds, should be recognized and given proper evaluation in judging. As has been mentioned under the discussion of breed character for the score card in Chapter 3, emphasis on breed character is most important in judging Jerseys, Ayrshires, and Guernseys.

Jersey breed character consists of a wide, well-balanced head, with a marked dish and prominent eye. The dish is so pronounced that the skull of a Jersey cow or bull possessing this character can be readily identified in the slaughter house. During recent years the emphasis in Jersey type has been on a somewhat larger cow and the recommended weight has been increased by 100 pounds. Simultaneously, a longer head was recommended to coincide with a larger body and to keep the proper balance or proportion.

The pictures that accompany this chapter demonstrate differences in breed character about the head and neck far better than is possible by description. A careful study of these pictures is recommended.

The Ayrshire head and neck are clean cut, refined, but strong, and the alert carriage of the head gives a definite style and flash to individuals of this breed. This is true with or without horns, but horns are characteristic of the breed. Sharpness, specific Ayrshire character, strength with

dairy quality, and balance are given major consideration. The head is moderately long, with less dish than that of the Jerseys and Guernseys. It takes some study for the beginner to appreciate the typical Ayrshire character and to be able to identify it

In the Guernsey breed the emphasis is on sharpness, with a display of clean-cutness and dairy quality to coincide with the outstanding dairy temperament carried throughout the body conformation of this breed. The emphasis is placed more in this direction for the Guernseys than for the "cut and dried" breed character as emphasized by the Jersey and Ayrshire breeds

For judging heads and necks in the three smaller breeds described above, it should be mentioned that coarseness, untidiness, shortness, heaviness, compactness, thickness, lack of proportion and dullness of eye are considered extremely objectionable qualities.

The emphasis on an attractive head in Holsteins and Brown Swiss is concerned primarily with a combination of strength and refinement. A head with a proper proportion or balance, and indicating a vigorous constitution is ideal, but more variations are tolerated here than in the smaller breeds. This is another way of saying that less emphasis is placed



FIG. 30 Three Brown Swiss cows with excellent, strong heads. The cow on the right produced 27,542 pounds of milk, 4.8% test, with 1326 pounds of fat on 3x milking for 365 days. Her strength about the head indicates this exceptional production. At the completion of her yearly record, she was milking 64 pounds a day. (Courtesy Kilravock Farm, Litchfield, Conn.)



FIG. 31. Emphasis on a wide muzzle and strength about the head can be justified when feeding habits of cows are observed. (Courtesy Voegli Farm, Monticello, Wis and Hoard's Dairyman, Fort Atkinson, Wis)

on a specific breed character for Holstein and Brown Swiss, and more emphasis is given to qualities that indicate economic usefulness and ensure the uniformly high production of these two breeds. Special attractiveness about the head and neck is recognized, but is not given as much weight in the final placing in Holsteins and Brown Swiss as in the other breeds.

Excellent types of Brown Swiss and Holstein for head and neck characters are shown in the accompanying pictures. Both breeds have a rather long head. However, it should be pointed out that the Brown Swiss possess more substance about the head and neck than any other breed. Usually the neck is more developed, and sharpness and clean cutness are not considered as important here as they are for the other breeds. It is generally known that much more throatiness, somewhat more coarseness, and a heavier dewlap and brisket are tolerated in judging Brown Swiss than in judging any other breed.



FIG. 32. Breed and outstanding dairy character are demonstrated by the clean-cut, well-balanced, strong head of this Guernsey cow and bull. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 33. Outstanding Jersey character is unmistakable in the heads of this noted Grand Champion bull and his maternal sisters. The dish and width between the eyes, the balance and symmetry about the forehead, poll, and horns, and the open nostrils and strong, wide muzzle of each individual reflect the extraordinary transmitting ability of the dam. (Courtesy American Jersey Cattle Club, Columbus, Ohio, and Pioneer Farm, E. Lea Marsh, Old Lyme, Conn.)

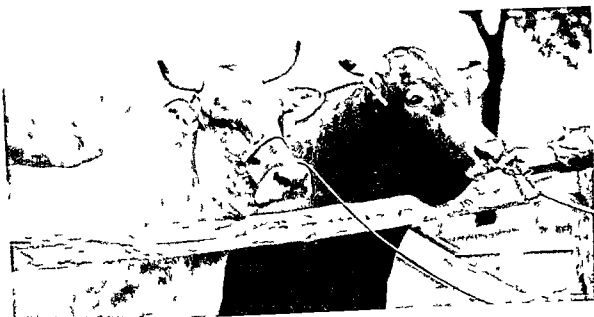


FIG. 34. The attractive heads of this Excellent Brown Swiss cow and bull denote quality, and both dairy and breed character. The bull was a grand champion winner at the national and five state fairs. The cow broke the national production record at 3 years of age (Courtesy Curtiss Candy Company Farms, Cary, Ill)



FIG. 35. The heads of this Holstein cow and her inbred son display strength and refinement. This cow with her outstanding individuality won many state and national honors in the show ring. She was prepotent for these type characteristics and passed them on to her inbred son (Courtesy Hoard's Dairyman and Allen Hetts, Fort Atkinson, Wis)



FIG 36 This bull's head is very nearly ideal for Ayrshire type. The trimness, together with the strength, balance, symmetry, and style are outstanding. The neck is formed the way it should be on a bull. The carriage is unusually good, and Ayrshire breed character is very evident. (Courtesy Viste Grande Farm, Cropseyville, N. Y.)



FIG 37 This Ayrshire head and neck are a poor contrast to those pictured in Fig. 36. The muzzle and jaw are weak, the nose narrow, the forehead shallow and receding, the neck throaty and lacking in smoothness of attachment.



FIG 38 An unusually strong but refined Ayrshire head, with outstanding breed and dairy character. Note the wide-open nostrils, the muscular lips, and strong, wide muzzle, the depth, strength, and refinement of jaw, the level poll on a well proportioned forehead, the proper type of horn, the neatly formed and attached neck, and the nearly perfect carriage (Courtesy Ayrshire Breeders Association, Brandon, Vt)



FIG 39 Another excellent Ayrshire head. At first glance the head and neck appear outstanding, and equally as good as those shown in Fig 38. On careful study, however, the head and neck pictured in Fig 38 display a trifle more power on all points and must be granted an advantage in every respect. The ability to make these fine distinctions is a prerequisite for a good judge. (Courtesy Ayrshire Breeder's Association, Brandon, Vt.)



FIG. 40. The unusually good head of a winner at the National Ayrshire Show. At first glance this head appears to be the same one as pictured in Fig. 38. However, upon close examination it can be seen that the dark color extends to the nose on this cow and that the markings on the neck are also different. A close analysis for type reveals that the cow in Fig. 38 has a more open nostril, a stronger, wider muzzle, and more muscular lips. Also the individual in Fig. 38 is more cleanly cut but fully as strong in the jaw, her eyes are more alert, and her forehead and poll have greater depth and balance. Neck comparisons of the two cows again reveal an advantage to the cow in Fig. 38. Her strong, smooth neck is more cleanly cut and shows more dairy character. (Courtesy Hoard's Dairyman, Fort Atkinson, Wis.)



FIG 41 A weak Ayrshire head with plain forehead, somewhat restricted nostrils, and lack of strength in jaw and muzzle The head and neck lack the smoothness, balance, strength, breed character, and carriage displayed by the cows in Figs 38 to 40 but they do show satisfactory dairy temperament.



FIG 42 An outstanding Ayrshire head without horns Cows are often dehorned, to provide efficient use of housing space and also to prevent injuries There is no discrimination for absence of horns, regardless of breed.



FIG. 43. Exceptional Guernsey breed type is possessed by this frequent Grand Champion winner at state, national, and international shows. Note the strength, smoothness, character, and refinement of this head.

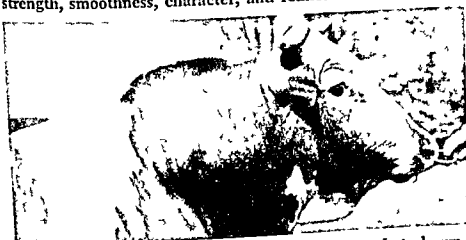


FIG. 44. This Guernsey bull, in contrast to that shown in Fig. 43, has a plain, coarse head, shows too much loose skin in the region of the throat and dewlap, and has too much crest on the neck, which is heavy and out of proportion to the rest of the body.



FIG. 45. Perfect head of a cow that won many Grand Championships at state, national, and international shows. Note the balance, symmetry, blending, and perfect proportions of all parts. Also the clean-cutness and refinement, combined with ideal strength, dairy, and breed character. (Courtesy American Guernsey Cattle Club, Peterborough, N. H., and Lakewood Farm, Malcolm J. Boyle, Mundelein, Ill.)



FIG 46 A strong, attractive Guernsey head and neck, with enough breed character and sharpness of line to be very outstanding (Courtesy Dinsmore Farms, Dinsmore, Florida)



FIG 47 A good Guernsey head with unusual dairy refinement (Courtesy Hanover Hill Farm Yorktown Heights N Y)



FIG. 48 This Guernsey cow was credited with two national records for two consecutive years. The great dairy quality and clean-cutness about the head, neck and shoulders portray her outstanding production. She produced 17,685 pounds of milk and 994 pounds of fat in 365 days as a senior 3-year-old, and 15,265 pounds of milk and 839 pounds of fat in 305 days as a senior 4-year-old. Such performance demonstrates the importance of emphasizing dairy refinement. (Courtesy American Guernsey Cattle Club, Peterborough, N. H., and Foremost Farms, Hopewell Junction, N. Y.)

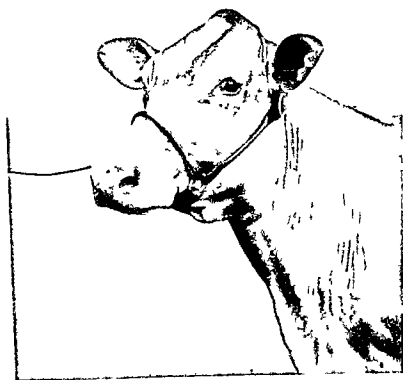


FIG. 49. Excellent head of a Guernsey cow without horns. (Courtesy Cornell University, Ithaca, N. Y.)



FIG 50 This Guernsey head has too "pretty" and dainty a face, a narrow muzzle, and weak jaw. When compared with those shown in preceding figures, it is apparent that this is far from the ideal for a Guernsey cow. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG 51 This head is seriously lacking in strength and depth of jaw. This cow does not have strength and vigor to keep producing over a long period of time. The entire frame and structure are too fine to meet the standards of desirable Guernsey type. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 52. A weak head and ewe neck displayed by a Guernsey cow.

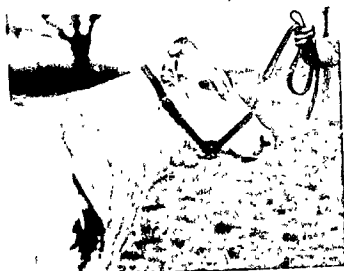


FIG. 53. This head is too plain, coarse, and lacking in Guernsey breed character.



FIG. 54. This plain head lacks strength of muzzle, proper shape of face, especially around the eyes, and shows the wrong inclination to the horns for the Guernsey breed. The forehead recedes but the nose is too prominent. The entire head is deficient in Guernsey character, proper balance, and proportion.



FIG 55 The prominent nose, receding forehead, and oddly shaped horns detract markedly from this Guernsey head which possesses considerable strength

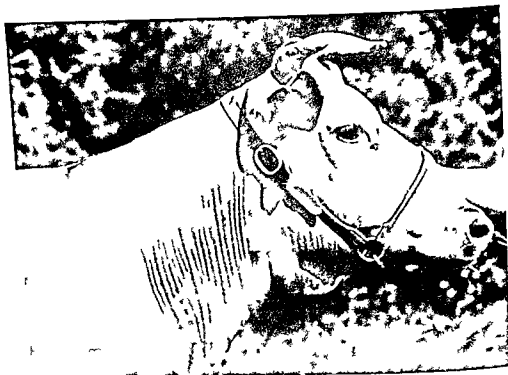


FIG 56 A strong head with too prominent nose This condition, referred to as Roman nose is not a serious fault when carried on a strong and otherwise well shaped head



FIG. 57. This head, in contrast to that shown in Fig. 56, has such a pronounced Roman nose and oddly shaped head that more discrimination must be made. These flaws cannot be marked as serious, however, because they have relatively little influence on the practical function of the animal.

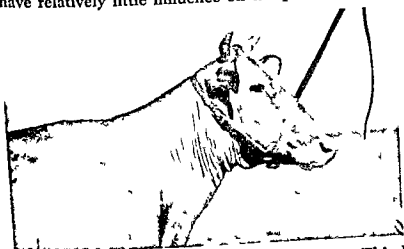


FIG. 58. A weak head with a long nose. This head lacks balance and is not correctly proportioned.

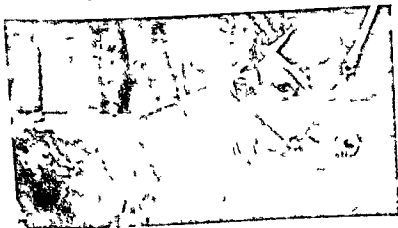


FIG. 59. A weak, narrow, long head that lacks power in the muzzle, strength in the jaw, and sparkle in the eyes. The neck is shallow and weak. Usually such cows have poor feeding qualities.



FIG. 60. Excellent front end of a Guernsey heifer. The breed character, balance, style, strength, and clean-cut lines are outstanding. (Courtesy McDonald Farms, Cortland, N. Y.)

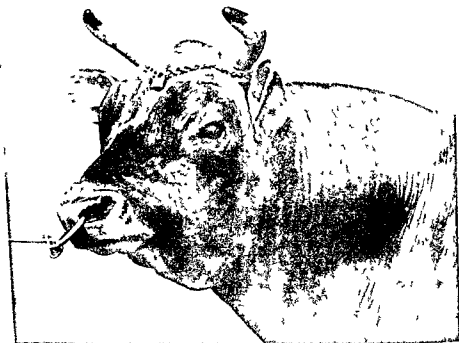


FIG. 61. Side view of a fine Jersey bull head. Note the balance, style, strength, and dish of forehead, with prominent eye, all of which spell Jersey character. The long, smooth neck possesses ample masculinity without a suggestion of coarseness. (Courtesy American Jersey Cattle Club, Columbus, Ohio)



FIG. 62. Refinement of horn, prominent eyes, Jersey character indicated by a marked dish, together with strong muzzle, wide-open nostril, and strong but refined jaw, all add balance to this unusually fine head of a cow that won many show-ring laurels herself and through her descendants. (Courtesy American Jersey Cattle Club, Columbus, Ohio)



FIG. 63. Very acceptable Jersey head of a prominent show-cow. This head does not show the pronounced Jersey character and dish indicated in Fig. 62. The nose is longer and more prominent. The throat is not as clean-cut and refined, but the entire conformation is good and the discrimination is very slight for the points mentioned. (Courtesy Biltmore Farms, Biltmore, N. C.)



FIG. 64. Long, plain Jersey head with a very slight dish.



FIG. 65. Long, plain Jersey head with no apparent dish, and thus a serious lack of Jersey breed character. The pictures from Fig. 62 to 65 are arranged in descending order and can be used to study differences in Jersey type about the head and neck.



FIG 66 Outstanding Brown Swiss head, possessing great dairy character and strength of all parts The horns are characteristic of the breed, and add to general dairy quality and breed character (Courtesy Brown Swiss Cattle Breeders Association, Beloit, Wis)



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FIG 67 Strong head and neck with exceptional breed character The Brown Swiss character, combined with general balance, alertness, strength, and quality, have helped to win for this cow many successive championships at national and international shows (Courtesy Lee s Hill Farm, New Vernon, N J)

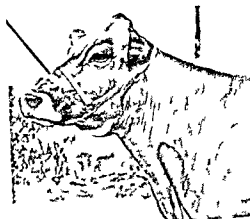


FIG 68 Brown Swiss head without horns, showing remarkable clean cutness and dairy quality The chiseled features, the strong muzzle with wide open nostrils, and the strong, deep jaw all indicate structural and constitutional strength The unusual refinement, on the other hand, reflects the great dairy quality and productive capacity of this cow (Courtesy Walhalla Farms, Rexford, N Y)



FIG. 69. In contrast to the heads pictured in Figs. 66 to 68, which displayed outstanding dairy refinement, this head and neck are coarse, heavy, and seriously lack breed and dairy character. As can be expected, they are carried on a heavy, coarse, compact, close-ribbed and thick-bodied cow.



FIG. 70. The clean-cutness, smoothness, and Holstein breed character portrayed in this head denote strength and dairy refinement. The balanced conformation and blending of all parts, plus the refinement about the horns, are unusual and add to the attractiveness of the front end of this bull.



FIG. 71. Extraordinarily good Holstein head. The great strength, combined with clean-cut lines, quality, and balance of head, properly carried on a deep, strong neck with ample dairy character are the qualities that have made this cow a frequent grand champion winner. (Courtesy H. B. Millhauser, Logwood Farm, Reisters-town, Md)

Shoulder Conformation

THE proper kind of a shoulder adds a great deal to the smoothness and strength of a dairy cow or bull. Weakness in the shoulder region can affect the gait of an individual, especially the ease of movement of the front legs. This may sometimes become serious enough to interfere with practical functions, particularly the ability to walk long distances and to spend a sufficient amount of time grazing on pasture.

Certain shoulder weaknesses cause cows to tire excessively under difficult conditions, and they become less efficient in their producing ability, especially during advanced age. In contrast, a strong, smooth-shouldered cow can move about freely in search of forage and can produce efficiently at high levels with a minimum of care. As the cow ages, these differences in wearing qualities become more pronounced, and smooth-shouldered cows usually show the beneficial effects of their good conformation.

For a thorough examination of the shoulder region, it should be observed from the direct front view, a side view, and the back view, while the animal is in motion and while at rest. In addition, observation of the leader at a show often discloses weaknesses of shoulder in the animal he is leading. If he frequently kicks the shins of the animal, it is usually a sign of "laziness" or "settling" at the point of the shoulder while standing.

THE IDEAL SHOULDER

The ideal shoulder in a dairy cow is reasonably sharp, clean cut, and smooth at the withers or top of the shoulder. This can be observed from the back view and partially from the side. The shoulder blades should be smoothly set against the chest wall and withers so they form a neat junction with the body and neck. The shoulder blade should be long and

show considerable depth from the top of the withers to the point of the shoulder. The blade should gradually widen toward the top and the entire structure should be smoothly laid in. The point should be refined and smooth so it blends properly and is not very prominent. Equally important is the attachment of the shoulder, which should be firm, strong, and snug, to allow the shoulder blade to move smoothly while the cow is in motion and also to prevent the point of the shoulder from showing a loose attachment or in extreme cases the wing-shouldered condition while the cow is standing.

The shoulders of cows pictured in Figures 72, 76, 80, 81 and 83 are close to the ideal. Since no distinct breed differences are indicated in the shoulder, it was not considered necessary to include pictures for all breeds. The same description can be used for shoulders of bulls as for cows, except that the former are more massive and are expected to show the masculinity and substance natural for the male sex. Figures 86 and 88 show nearly ideal shoulders for bulls of the light and heavy breeds, respectively.

DEVIATIONS FROM THE IDEAL

Less perfect conformations of shoulder include: heavy or open withers lacking in smoothness; shallow shoulder from the withers to the point; shoulders that are rough or poorly attached; heavy beefy shoulders; coarse, prominent points of shoulders; loosely attached shoulders, to the extent that the animal walks poorly and stands wing-shouldered (or in a milder form shows the point of shoulder too prominently while walking, and settles in the region of the point when the animal is not in motion). These characteristics are pictured at various stages in descending order.

It is also possible to have a shoulder with too much refinement, which makes it too frail and lacking in proper strength. This may reflect a lack of strength in the entire frame of the animal and is serious in the larger breeds which should possess a strong, rugged frame.

In evaluating deviations from the ideal, due regard should be given to age and stage of lactation. A cow of advanced age need not be so firm in shoulder attachment or so smooth in the entire region as a young cow.

A dry cow, or one advanced in stage of lactation, need not be as sharp at the withers and can carry more covering over the shoulder than the cow at the peak of her production. A good livestock judge recognizes that changes do take place during the lactation period, and will not penalize a cow for this normal condition during the dry period or toward the latter part of her lactation.

The worst fault in shoulder conformation is the winged shoulder,

especially in an advanced stage at which the shoulder attachment is almost completely broken and no longer provides the necessary support. The degree to which the individual displays the winged condition determines the emphasis placed on it, but it ranges from a slight to a serious discrimination. The characteristic is considered much more serious in young cows than in those of advanced age that have a right to show some wear. Age should always be considered before deciding on the degree of discrimination for penalizing a cow with winged shoulders. The condition is inherited and often runs in families. It is much more common in some breeds than in others, but is present to a limited extent in all breeds, and should receive attention in a breeding program.

In giving reasons, terminology of favorable and unfavorable shoulder type characteristics will be useful for properly describing the condition. Some that may apply to certain situations follow:

Favorable:

1. Sharp (clean-cut) and smooth over the withers.
2. Nicely laid-in at the withers.
3. Well-defined at the withers.
4. Neat and smooth of shoulder.
5. Neatly laid in at the shoulders.
6. Shoulders that show the same general strength, depth, and width as the rest of the body.
7. Neatly laid in shoulders that conform to the general contour of the body.
8. Shoulders that form a neat junction with the body.
9. Shoulder blades set smoothly against the chest wall and withers.
10. Deep, smooth, and neatly laid in shoulders.
11. Smoothly laid in at the shoulder.
12. Blends in smoothly at the shoulder.
13. Shoulders that fit snugly into the body.
14. Smooth at the point of shoulder.
15. Refined and not prominent at the point of shoulder.
16. Strong attachment of shoulder, especially at the point.
17. Nearly perfect shoulders, as close to the ideal as possible.

Unfavorable:

1. Heavy and blunt at the withers.
2. Opens up at the withers when she walks and stands.
3. Too broad at the withers.
4. Coarse and open at the withers.
5. Too flat and heavy at the withers.
6. Beefy and rough in the shoulders

7. Shoulder blades do not blend smoothly into the withers and body.
8. Too open a shoulder.
9. Coarse, heavy shoulder.
10. Too heavy, open, and rough in the shoulder.
11. Heavy, coarse shoulders, which indicate a lack of dairy quality and a tendency toward beefiness
12. Shoulder lacks strength
13. Narrow and frail through the shoulders
- 14 Too narrow in the shoulder.
15. A bit shallow in the shoulder.
16. Lacks depth of shoulder.
17. Open and prominent at the shoulder.
18. Very prominent at the point.
19. Out at the point of the shoulder.
20. Extremely loose (weak) in attachment of shoulder.
21. (Slightly), (moderately), (severely) winged shoulder.
22. Broken in shoulder attachment.

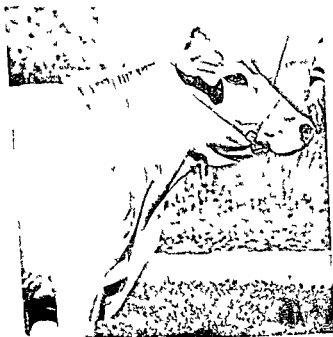


FIG. 72. A smooth and deep-shouldered Brown Swiss cow. The point of shoulder is excellent. It displays sufficient strength but with such an abundance of refinement that it is hardly visible. (Courtesy Walhalla Farms, Rexford, N. Y.)



FIG. 73. Cow with a loosely attached, coarse shoulder, too prominent at the point.



FIG. 74. An extremely loose shoulder with a coarse, prominent point.



FIG. 75. This cow has coarse, heavy, and shallow shoulders.



FIG. 76. Guernsey cow with exceptional depth and smoothness of shoulder.



FIG. 77. In contrast to the cow shown in the preceding figure, this one has coarse shoulders, especially at the point, which is too prominent.



FIG. 78. This Guernsey cow shows fine dairy character in the shoulder region, but her shoulder attachment is too loose. This permits the point to settle when she stands and makes it too prominent and loose when she moves.



FIG. 79. Another cow with outstanding dairy quality, but her shoulders are so refined and loosely attached that she stands wing-shouldered, and the entire shoulder structure moves too much when she walks.



FIG 80 The extreme smoothness and fine type of shoulder displayed by this Holstein cow is carried throughout her entire conformation. This enabled her to win many grand champion ships and to be very successful in the show ring over a period of years (Courtesy Henry Bartel, Hastings, Minn)

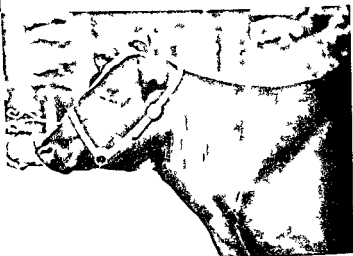


FIG 81 The smooth, neatly laid in shoulders of this outstanding Holstein cow, together with her excellent conformation throughout, set the stage for an official type classification with a high score of 95 (Courtesy Sunny Lea Farm, Waukesha, Wis)



FIG 82 This outstanding cow, the possessor of many high production records, shows wear in her loosely attached wing shoulders. At an advanced age this fault is not as serious as in a young cow. She was 12 years of age when the photograph was taken

FIG. 83. Sharp, smooth withers, the shoulder blades blending smoothly with the body and closing at the top of the shoulders. (Courtesy Holstein-Friesian Assn. of America, Brattleboro, Vt.)



FIG. 84. Holstein cow with satisfactory shoulders from a practical standpoint. However, she shows too much openness at the withers and, in contrast to the cow pictured in Fig. 83, the shoulder blades do not blend smoothly. (Courtesy Holstein-Friesian Assn. of America, Brattleboro, Vt.)

FIG. 85. Cow with coarse, open, rough shoulders that are too flat and wide at the withers. (Courtesy Holstein-Friesian Assn. of America, Brattleboro, Vt.)





FIG. 86. Guernsey bull with smooth-blending shoulder that shows proper refinement, strength, and even contour at the point of shoulder. (Courtesy McDonald Farms, Cortland, N. Y.)



FIG. 87. In contrast to the bull shown in Fig. 86, this one has coarse, heavy shoulders that are much too prominent and heavy at the point of shoulder. The coarseness extends forward, especially to the crest of the neck.



FIG. 88. This Holstein bull displays smooth, deep, strong, but refined shoulders.



FIG. 89. The heavy shoulders, especially the coarse, rough, point of shoulder, of this bull detract from his good conformation in other parts of the body.



FIG. 90. The shoulders of this Holstein bull are even poorer than those pictured in Fig. 89. The shoulder conformation is shallow, showing less depth from withers to point of shoulders, and is heavy, prominent, bulging, and coarse at the point. This is partly due to lack of a strong, smooth shoulder attachment.

Judging Legs and Feet



FIG. 91. Silhouette of legs and feet of a Grand Champion. (Courtesy Hoard's Dairyman, Ft. Atkinson, Wis.)

OPINION varies widely as to what constitutes the correct type for legs and feet, and how much discrimination should be given to various deviations from the ideal. In view of this, a detailed description is presented here, together with a large number of photographs to illustrate various conditions. The description is based not only on the opinion of the author but also on the opinions of some of the best breeders and judges in the country.

In show ring judging it is often necessary to penalize an animal with poor feet and legs to a much greater extent than the ten points allotted to this characteristic on the score card. This is especially true of young animals with extremely poor feet and legs, because they seldom develop into useful old animals. For this reason, age should be considered in making a sound evaluation (Fig 92).

The number of good cows that have to be discarded or that gradually decline in general health and production because of bad feet and legs is much larger than is generally realized. Feet and legs can be in such poor

condition that they seriously hamper the productive capacity of an otherwise good cow. Thus a penalty beyond the ten points allotted on the score card can be well justified. Any breeder who says that he has never had to discard a cow because of bad feet and legs is either extremely inexperienced or is pampering such cows beyond practical means.

Conditions under which cattle are kept can markedly affect foot and leg conformation. Wet, swampy land and a muddy yard are conducive to soft, overgrown feet. Proper trimming of the feet (Fig. 93) at regular intervals is important. Livestock men who have milking cows on contract for the Walker Gordon Rotolactor at Plainsboro, N. J. express particular appreciation of the differences in feet and legs. Here, large numbers of cows have to walk a quarter of a mile on concrete two or three times a day to the rotolactor for milking and back again. Under these conditions great differences can be observed in feet and legs between breeds, between daughters of different sires, and between female lines.

CHARACTERISTICS FOR THE IDEAL

A few dairy animals have legs and feet that approach perfection, and these can be used as examples (Figs. 94, 95, 97, 102, 103, 104, 105, 108, 112, 120, 123, 124). Once the ideal is well established in the mind of a

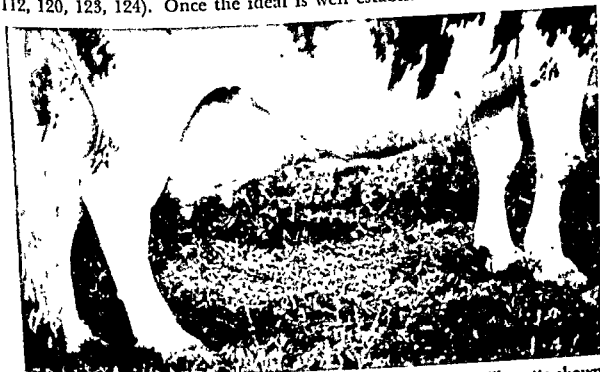


FIG. 92. The above feet and legs are a poor contrast to the silhouette shown in Fig. 91. However, they belong to an 18-year-old cow that has had an outstanding lifetime production. Her feet and legs, therefore, are acceptable for a cow at this advanced age. There would be a serious discrimination against such feet and legs on a cow at half this age and in the prime of her life.



FIG. 93. Feet can be kept neat and in good shape by proper trimming at regular intervals to maintain correct length of hoof and a strong wall, and by preventing the sides from growing under the foot to form a poor sole or bearing surface. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)

judge, he can easily detect deviations. These include conditions that impair good movement, appearance, and usefulness.

A proper manner of walking is essential to symmetry and beauty of conformation, and displays grace, coordination, and poise. An experienced judge can closely predict the condition of the feet and legs after watching an animal walk. Both the rear and the front legs are important and are described separately. The rear legs, however, are much more important than the front legs and receive the major emphasis.

The leg bone should be strong and smooth, with plenty of substance as well as refinement. This denotes good dairy quality, with bone, tendon, ligament, and muscle construction that combines a substantial foundation with the ability to move easily and smoothly. There should be no indication of roughness or coarseness. To provide good wearing qualities, the leg bone should be hard, flat, flinty, strong, and of a size that is typical and adequate for the breed or weight of the individual (Figs. 103, 104). The hock should be wide and clean when viewed from the side.

The rear legs should have a moderate set, indicated by a slight curve as illustrated in Fig. 94. The correct set, combined with a strong bone,

provides just enough spring to the leg to provide smooth, coordinated movement and to carry the weight properly. Thus the hocks and other joints remain clean and free from any unnatural fullness.

The feet should be moderately large with well-rounded toes carried close together and with considerable depth and width at the heel and throughout the foot. When this is combined with a level sole, the foot provides a sound foundation that wears well and requires a minimum of trimming.

Pasterns are an important part of the structure. They should be of medium length, strong but springy. They absorb considerable shock which would jar and irritate the joints of the hock and foot with every step. They should join the hoof smoothly, be properly proportioned, and have the correct curve to give the leg a proper over-all contour or shape.

The entire leg structure should be placed squarely under the body to insure ease of movement (Fig. 97). From the side view, the legs should be nearly perpendicular from hock to pastern but also should blend into the curve of the hock and pastern. When viewed from behind, the legs should be wide apart and nearly straight (Fig. 108).

The front legs should be straight and placed with enough width between them to provide ample chest space (Fig. 120). They should move smoothly and, like the rear legs, have the size and strength of bone to fit the rest of the body.

DEVIATIONS FROM THE IDEAL

Probably no other point of conformation has as many degrees of deviation as do the feet and legs. This is due to the complexity of structure

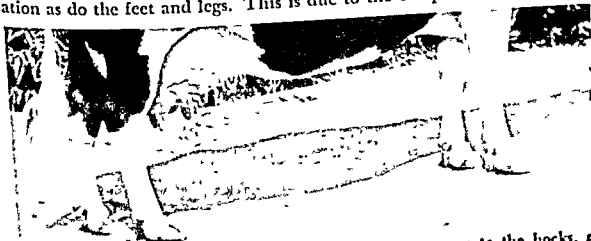


FIG. 94. A nearly perfect leg, showing the proper curve to the hock, a strong pastern, and large, well-formed, deep foot. This 4-times All-American cow withstood the test of wear on feet and legs to an advanced age. (Courtesy Lavacre Holstein Farm, Modesto, Calif.)

involved and to the fact that several parts may change with age and/or with different environment or management conditions

A foot lacking in vertical depth, especially in depth at the heel, becomes flat and needs frequent trimming. It is subject, also, to other foot troubles because it does not wear well. The shallowness at the heel permits various infections, particularly those likely to cause hoof rot, to gain admittance into the soft, fleshy tissue near the hoof (Fig. 115), creating a great deal of trouble for the owner or manager. The infections require expensive veterinary care, consume valuable time, and frequently reduce milk production and/or body weight to a marked extent.

A bad foot can exert a great influence on the shape of the leg, especially as an animal ages. By the same token, an ill shaped leg can have a definite effect on the shape of the foot, on the growth of hoof tissue, on the sole, and on the way the foot will wear. When both the feet and the legs are bad, the ill effects are cumulative and more pronounced. Feet which are small and do not provide enough bearing surface are objectionable. Serious discrimination is given to a condition in which the toes are constantly spread and are carried too far apart (Fig. 27). This usually leads to disorders of the area between the toes and at the heel. The conditions under which cattle are kept and the amount of trimming done influence the shape of the foot and the way the feet and legs will wear.

A soft spongy foot causes a great deal of trouble. Walls that have 'curled' under the foot create excess pressure on the sensitive parts of the foot. Pressure on some of the nerve endings in the delicate parts of the foot causes the animal to change the position of the feet, and thus produces a severe strain on some of the tendons, ligaments, and muscles. The unnatural pressure at an awkward angle often stimulates excess secretions in tendon sheaths and bursas which results in a gradual injury to the region, indicated by tender, and often inflamed, puffy joints, legs, or pasterns. Unless the condition is corrected at an early stage, a permanent injury which would call for serious discrimination may result. Such penalty is justified because the condition affects the entire well being and productive capacity of a cow. The endocrine and digestive systems may be affected as well as her general health. Everyone knows the unpleasant effect of tired, aching feet on his energy and disposition. The effect on cows is the same. From a practical standpoint, the emphasis placed on feet and legs, and discrimination by judges against bad conformation are well justified, because they have considerable economic importance.

The pasterns can be too long, too weak, badly shaped, inflamed, or broken (Figs. 98, 113, 114, 115, 116, 117). Since they are such an important part of conformation, there is a serious discrimination for marked

deviations from the ideal. Many close placings have been won or lost because of the condition of the pasterns.

A sickle shaped hind leg is a serious type defect, and if the condition is pronounced, it will be penalized severely in the judging ring (Figs 99, 100, 115, 116). Since there are many degrees of sickle legs, discrimination ranges from slight to serious, depending upon the degree of deviation observed. The condition displays weakness, and therefore is important. The weight is placed too far back on the heel, and then the stage is set for foot trouble, requiring time consuming and expensive trimming of feet.

In contrast, the leg can be too straight, so that the springy quality of the hock and pastern is lost (Figs 117, 127). This condition, called 'post leggedness,' causes the animal to move stiffly, since with every step the bones are driven together, this usually results in lameness due to inflammation of the joint. In the early stages, some filling or puffiness can be observed about the hock joint, and in the advanced stages severe inflammation is apparent about the hock, and frequently about the pastern or the immediate region above the foot.

The hock joint should be wide and strong but also clean cut, refined, and cleanly and sharply molded so that it is free moving and provides ease and grace of movement. Coarse, thick, meaty, weak, or poorly set hocks are objectionable and receive from slight to serious discrimination.

Temporarily blemished hocks due to an injury, are given only a slight discrimination but badly damaged hocks that appear permanently injured are severely penalized. It is generally known that temporary lameness, which does not affect normal function, receives only a slight discrimination. Permanent lameness however, which interferes with the normal functioning of the individual is either a serious discrimination or a disqualification.

The bones in the leg can be extremely weak because of pininess and general weakness. The condition is referred to as over refinement of bone, or as 'willow' bone if the support is too soft and springy (Fig 100). On the other hand, a coarse, rough bone is objectionable because it is usually incompatible with good dairy character (Figs 107, 113). Both conditions are assigned a slight to serious discrimination, depending upon the degree of deviation from the ideal. A strong bone with ample refinement.

The rear legs can also be too close at the hock when the individual walks and stands. (In the past this condition was referred to as 'cow hocked' but the term has been discarded and is no longer considered good terminology.) Here the weight is thrown at a bad angle on the hock and the pastern joint putting undue strain on them. Since it usu-

ally causes the rear feet to point outward, this deviation can be observed from either the side or the rear. The rear, however, provides the best view for a proper evaluation. (Figs 109, 110).

Deviations from the ideal front legs and the degree of discrimination are: enlarged knees (slight); bucked knees, knees bucked forward (serious); knees set back (slight); knock knees, close at the knees and toes out (slight to serious) (Fig. 122); bow-legged, legs bowed out and toes pointed in (slight to serious); crooked leg with toes pointing out (moderate) (Fig. 121); weak, too refined bone (slight to serious); legs too close together, causing insufficient chest room (slight to serious); poor feet and pasterns, as described for the rear feet and legs previously in this chapter. Loosely attached or wing shoulders are often reflected in the front legs, and can usually be detected by awkward movement and set of the front legs.

The feet and legs should be observed while the animal is walking as well as while standing. A hobbling, jerky, or awkward gait indicates flaws in conformation that must be evaluated to determine the proper discrimination. For example, arthritis is given a serious discrimination both for cows and for bulls because it has such a marked influence on usefulness.

The general proportions of the legs must be considered. Every judge has observed legs that were too long and gangly, giving the effect of stilts, as well as too short or stubby legs, carrying the animal too close to the ground and making it appear heavy and compact in body conformation.

BREED AND SEX DIFFERENCES

Breed differences exist in feet and legs. Brown Swiss indisputably have the best feet and legs, and their feet seldom need trimming if the animals are given a reasonable amount of exercise on firm ground. Since their legs are generally well shaped, their weight is properly distributed when standing and when walking (Fig 103). Brown Swiss breeders strive to maintain this characteristic by carefully discriminating against deviations.

The smaller breeds have received less attention and emphasis on legs and feet because deviations cause less trouble with a light-weight animal than with a larger one. The varying degree of discrimination on deviations from the ideal feet and legs should be recognized by the judge who officiates for a number of breeds. This is important in order to avoid too much discrimination or too much tolerance while judging different breeds.

The set of the hind legs, especially in young animals, can be considerably strengthened by extensive exercise. Controlled exercise on a motor-driven mechanical exerciser has proved extremely beneficial. Judges should give consideration to the influence of exercise on strength of legs

and set of hocks. Heifers and cows in herds with a tendency toward sickle legs show this characteristic to a much greater extent in the spring when they go out to pasture than they do three or four months later after they have had the benefit of considerable exercise while grazing on pasture.

Bulls are assigned considerably more points and criticized even more for feet and legs on the score card than are cows. This is justified because a bull carries more weight and through inheritance may transmit either good or bad legs and feet to his progeny. Thus, it is logical to start an improvement program with bulls, since they have so much more influence individually in a breeding program.

The straight hock, or post-legged condition, previously described is serious in service bulls because the leg may buck forward in the hock during service. This may produce serious lameness and limit his usefulness. In extreme cases the hock joints become sore and inflamed (Fig. 127). A large, heavy bull may respond to this condition by shifting his weight from one side to another. As the condition becomes more pronounced, he increases the frequency of weight shifting, until the motion develops into a rhythm much like that of a bicycle rider. After a few weeks of this, the bull is usually in such bad condition that he can no longer stand or move about.

Evidence of arthritis or cramps in the hind legs is given a serious discrimination, especially in bulls because it usually impairs their usefulness for service. This condition can be observed while the animal is walking and sometimes while standing, but particularly when in motion, since he is likely to shake the foot and leg periodically.

USEFUL TERMINOLOGY

Terminology used in describing various conditions of the feet and legs follows:

Legs

1. Squarely placed legs to ensure good moving ability.
2. Legs are well placed; set squarely on the corners of the body.
3. Stands squarely on good legs (sound legs and feet).
4. Correct in set of legs.
5. Nearly perfect legs and feet.
6. Smooth (stylish) and nicely balanced set of legs and feet.
7. Ample bone (ample substance of bone).
8. Excellent set of legs, with ample, clean bone.
9. Sufficient substance and refinement of bone.
10. The gentle curve indicates a nearly perfect set to her legs.

- 11 Nearly perfect set of legs when viewed from the side and the rear, and while moving as well as standing
- 12 Refined but sturdy legs
- 13 Strong boned but no sign of coarseness (clean cut bone)
- 14 Small boned but strong leg
- 15 Good support below the hock
- 16 Moves easily and strongly (a strong free moving leg)
- 17 Sickle shaped hock and leg
- 18 Easy on the hind legs (needs more support below the hock)
- 19 Entirely too much set to the hind leg
- 20 Crooked legs markedly apparent both on the move and while standing
- 21 Too much set to the hock
- 22 Post legged (too straight on her legs)
- 23 Bone too coarse (thick) (heavy)
- 24 Bone too light (frail) (small) (refined)
- 25 Crippled legs (lacking in soundness of feet and legs)
- 26 Permanent (temporary) lameness due to leg (joint) injuries
- 27 Too upstanding (too far off the ground) (too short a leg)
- 28 Too long and gangly in the legs (a bit too much length of legs)
- 29 Awkward set of the legs places too much pressure on the hock and pastern

Hock

- 1 Well molded clean refined but strong hock (clean at the hocks)
- 2 Well placed hocks (points of hocks wide apart allowing ample room for a wide rear udder)
- 3 Correct width and shape at the hocks
- 4 Large clean cut wide and deep hocks
- 5 Oversized (thick) (coarse) hock
- 6 Meaty (puffy) condition of the hock
- 7 Somewhat full and boggy in the hocks
- 8 Set too close (wide) at the hocks
- 9 Stands and walks so close at the hocks that the udder is pushed forward
- 10 Slightly (moderately) (very pronounced) sickle hocked legs
- 11 Swollen (bruised) (inflamed) hock

Pasterns

- 1 Strong smooth well proportioned moderately long pasterns
- 2 Nearly ideal set to her pasterns
- 3 Strong pasterns that join the hoof smoothly
- 4 She (he) possesses a common weakness of hind legs—weak pasterns

5. Inflamed, sore (enlarged) pasterns.
6. Long, weak pasterns.
7. Ill-shaped pasterns, lacking in strength.
8. Too springy in the pasterns.
9. Long, weak pasterns which terminate in a weak foot.
10. Pasterns are too short and straight.
11. Too steep in the pasterns.

Feet

1. Broad, well-shaped, deep foot, with solid walls and good wearing surface.
2. Great depth, width, and size of foot.
3. Deep, well-balanced foot, with proper depth at the heel.
4. Shapely feet with good wearing qualities.
5. Possesses the preferred depth and width of heel.
6. Carries too much weight on the soft structure of the heel.
7. Feet seem very tender and she walks insecurely.
8. Walks too far back on her heels.
9. Pinched and shallow at the heels.
10. Infection and inflammation at the heel (on the bottom) (between the toes) of the foot.
11. Weight-bearing surface of the foot is too tender (too small) (very uneven) (too spongy).
12. Small feet with narrow and pointed toes.
13. Spreading toes (spraddle-toed) (foot opens up too much from the front).
14. Scar tissue between the toes is a sign of previous trouble (of foot trouble).
15. Shallow, flat foot which predisposes the individual to foot rot.
16. Defective foot conformation (ill-shaped feet) (odd feet).
17. Swelling and lameness in the right (left) front (rear) foot.
18. Foot rot (infection) which has penetrated into the deeper tissues or joints.
19. Toes have grown too long.
20. Walls of the feet have curled under.
21. Essentially good feet but sorely in need of attention (trimming).
22. Badly neglected feet (lack of foot care) overemphasize the leg faults.
23. Temporary (permanent) lameness in her feet.

Front Legs

1. Straight and well placed.
2. Should have greater width between the forelegs.

- 3 Stands and walks too close (not enough space between the front legs).
4. Knees too close (knock-kneed).
5. Legs curve outward (bow) too much.
6. Toes point outward.
7. Walks pigeon toed (toes point inward) (paddling gait).
8. Knees set too far back on front legs
9. Bucked knees (knees buck forward).
- 10 Awkward movement and set of front legs
11. Swollen (bruised) (heavy) knee that lacks freedom of movement.



FIG. 95. The strength of pastern and depth of foot in this cow are very good. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 96 This cow has a shallow foot, with the hock set too far back, which causes her to scuff when she walks and makes her susceptible to foot trouble (a moderate discrimination). (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 97. A fine set of legs with strong pasterns and well-shaped feet. X-1 indicates point of thurl. The plumb line is even with the hock, X-2. The plumb should touch the ground midway between the heel and toe of the hoof. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 98. The plumb-line test, which can be duplicated in practice by an imaginary line, shows that the weak pasterns push the legs back too far. The space between the front of the hock and the plumb line is slight, but there would be none at all if this cow had a strong set of pasterns (a moderate discrimination). (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG 99 This cow has ample bone but her legs are sickle shaped and hence awkward (a moderate discrimination) (Courtesy American Guernsey Cattle Club, Peterborough, N H)



FIG 100 This cow is very sickle legged. Such legs are often referred to as willowy and are due to lack of substance in the bone (a serious discrimination) (Courtesy American Guernsey Cattle Club Peterborough, N H)

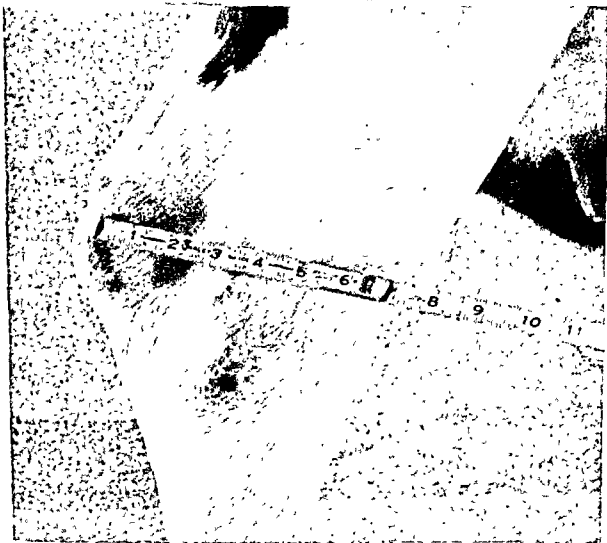


FIG. 101. Thick, coarse, enlarged hock on a strong leg. This kind of hock is easily injured and a constant source of trouble (a slight to moderate discrimination). (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)

FIG. 102. Ayrshire cow with strong leg bones and correct set of the hocks.





FIG. 103. Brown Swiss cow with strong bones, ample refinement, and excellent set of the hocks. The legs are supported by strong pasterns and the hoofs are deep and well rounded. (Courtesy Hycrest Farm, Leominster, Mass.)

FIG. 104. These nearly perfect legs on a Jersey cow have much more refinement of bone than those of the Brown Swiss in Fig. 103, but are suitable for a smaller cow carrying considerably less weight.





FIG. 105. Nearly ideal set of legs on a Guernsey cow. A splendid combination of correct proportions, clean-cut lines, and refinement, with strong, flat bones and correct set of the hoofs.

FIG. 106. Guernsey cow with legs set acceptably but with too light a bone (a moderate discrimination).





FIG 107 In contrast to the cows shown in Figs 105 106 this Guernsey stands on awkward legs which are too coarse and heavy in bone structure (a slight discrimination)

FIG 108 Rear view of legs showing ideal width at hocks (Courtesy American Jersey Cattle Club Columbus, Ohio)





FIG. 109. The cow shown here stands too close at the hock. This brings the entire leg into an awkward position and causes the toes to point outward. The udder has an excellent rear attachment but is forced forward by the position of the rear legs (a moderate discrimination). (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 110. Cow showing the same conformation described in the preceding figure, but the condition here (close hocks, awkward legs and feet that toe out) is much more pronounced (a serious discrimination).



FIG. 111. Legs that have too much curve in the hock and feet that point out at the toes. The curved hocks place the legs in an awkward position and support the weight at the wrong angle in this Jersey cow (a moderate discrimination).



FIG. 112 The hocks of this Holstein cow have a nearly perfect set and can support the weight of the body with ease



FIG 113 This sickle-legged Ayrshire cow shows coarse bones and faulty pasterns (a serious discrimination).



FIG 114 The hocks of this Guernsey cow are acceptable, but the pasterns are extremely weak and the feet too long and shallow (a moderate to serious discrimination)



FIG 115 Sickle legs, weak pasterns, and shallow feet cause this Holstein cow to walk on the tender part of the heel of her foot. This is conducive to foot trouble and usually shortens the useful life (a serious discrimination)



FIG. 116. Extremely sickle legs and long weak pasterns on a high-producing Guernsey cow (a serious discrimination).

FIG. 117. The hocks of this Ayrshire cow are too straight and the pasterns broken and deformed (a serious discrimination). The strain caused by this condition will shorten the useful, productive life of a cow.





FIG. 118. Very awkward set of legs on a Holstein heifer.

FIG. 119. Ayrshire heifer with very ungainly legs. Time will only exaggerate this condition.





FIG. 120. Nearly ideal front legs of a Guernsey cow. Note the deep and well-shaped foot, strong pasterns, straight leg, width at well-formed knees, and ample chest room. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 121. Crooked front legs, and feet that toe out. A twist in the legs throws the toes out and places the weight on the feet at an abnormal angle (a moderate discrimination). (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 122 Poor front legs with knock-knees and feet toeing out. The legs are so close together that insufficient space is allowed for the chest area (a serious discrimination). (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 123. Nearly perfect legs of an Ayrshire show bull. Note the combination of strength, refinement, and clean mold of bone. The set of the hock is ideal, the pasterns are firm, strong, of proper length, and are attached to wide, deep, well-formed feet. The fine shape of these feet and legs was maintained up to the death of this bull at nearly 15 years of age. (Courtesy Curtiss Candy Company Farm, Cary, Ill.)



FIG. 124. Strong, refined legs of a Guernsey show bull. Note the flatness and strength of bone in the leg, and the clean mold to the hock with the correct set. (Courtesy McDonald Farms, Cortland, N. Y.)



FIG 125. Awkward legs of a young Guernsey bull. A great deal of this awkwardness is due to long, weak pasterns (a moderate discrimination).



FIG 126 Poor legs of a Jersey bull. The bones are too light and the pasterns weak. This is a serious discrimination in a bull. The weakness was transmitted to a majority of his sons and daughters.



FIG 127 Faulty legs, too straight in the hock and too weak in the pasterns and feet for a large mature bull. Good rear legs are necessary to support the weight properly during service. Legs such as these handicap the bull and usually shorten his useful life (a serious discrimination).

9

Body Capacity

It is generally recognized that there is a close association between body capacity and efficiency during a long, sustained lifetime production. The body must have the proper constitution, vigor, dairy quality, general capacity, and wearing qualities required for many years of high production. Capacity is extremely important, since the body houses the power machinery in the fore end and the manufacturing plant of the cow in the rear end.

When the motor in a car ceases to function properly, performance is greatly reduced, especially under stress of climbing grades and at high speeds. Expensive repairs are usually necessary. Likewise, a cow with a weak body does not have the staying power for the stress required in her work. She will ultimately wear down, decrease in production, and require more veterinary attention.

A large, deep body is very important in a cow to promote life-giving functions. The most efficient production is obtained from roughage and pasture. The more a cow can consume of these feeds, the less grain is required in the ration to supply the nutrients for production. A moderately large cow can produce 32 pounds of milk from the nutrients needed to keep her alive for a day. In terms of roughage, this is 20 pounds of hay (or hay equivalent) just to keep the cow alive—a fixed maintenance requirement each day before any milk can be produced. This alone requires $\frac{2}{3}$ or $\frac{3}{4}$ of the roughage a cow can eat. As a rule, a heavy roughage consumer has a longer productive life and wears better than a heavy grain consumer. The type of body dictates the kind of ration that can

be handled efficiently, and the kind of ration and feeding management have a distinct influence on body type in dairy cattle.

PREFERRED TYPE OF BODY

A long, well-sprung rib gives a capacious middle or barrel capacity (Fig. 128). The ribs should be long, deep, wide, strong, and arched. Body capacity is controlled by length, depth, and degree of arch or rounding contour. The depth and arch of ribs or body exhibit the greatest differences in proportion to size and therefore exert the greatest influence in determining differences in capacity. Obviously, the greater the depth and spring of rib, the more increase is obtained in body capacity. The degree of spring of rib determines the width of the body; the length of rib, plus other factors, provides the depth.

Most cattle on farms and in countries where roughage consumption is important have deep, spare, well-sprung bodies. If these characteristics are emphasized in judging, both in the show ring and on the farm, proper stress will be placed on roughage consumption as the most efficient ration for dairy cows.

The score card recognizes the importance of body capacity by approving a relatively large body in proportion to size of animal, a body which provides ample room for digestion, and gives strength and vigor to the animal. A large body means a large heart girth, formed by long, well-sprung fore ribs showing ample fullness at the point of elbow in the region behind the forearm. The resulting wide chest floor provides the proper width between the front legs, and prevents constriction of the organs of respiration and circulation. The barrel should be deep and strongly supported, with well-sprung, widely spaced ribs, and the depth and width should increase toward the rear of the barrel.

DEVIATIONS FROM THE IDEAL

After careful study of the description of ideal body conformation, the possible deviations are quite obvious. From the front view, a cow can be narrow and pinched in heart girth, with insufficient room for the heart and lungs. Ample heart girth is vitally important for a high-producing cow. A cow that is too narrow in this region is also usually frail in general conformation. On the other hand, some cows are too heavy and coarse in this region and thus lack dairy quality. Either deviation, if marked, is a serious discrimination.

From the side view it is possible to observe many deficiencies in body. These range from a slight defect in fullness of heart girth (a slight discrimination) to extremely short fore and rear ribs that make the body

much too shallow (a serious discrimination). Sometimes this deficiency in depth of ribbing is exhibited only in the region of the fore or rear ribs, and then the discrimination is somewhat less severe. Depth of rear flank is also observed from the side, but its practical significance is not so great as that for depth of ribs. Therefore, it receives less emphasis; it does, however, contribute to the general appearance of the cow. It is also very important that the individual rib bones are flat and wide apart, to give openness of body and sufficient length. A compact body with the ribs close together is a serious discrimination in a dairy animal, especially in mature cows.

Spring of ribs can be best studied by standing directly behind the cow (Figs. 145, 146). From this vantage point, any lack of fullness behind the shoulders in the region of the crops can be determined, as well as a lack of spring of fore and rear ribs. A body too flat because of a lack of spring of rib is not so serious as the lack of depth, but it does have a pronounced effect on capacity and must be evaluated from this standpoint. Width of body as influenced by spring of rib is not so important for the smaller breeds as for the larger; it receives the greatest emphasis in the Brown Swiss.

FACTORS AFFECTING BODY TYPE

The influence of sex, pregnancy, stage of lactation, age, sickness, and many other factors must be given consideration to evaluate body capacity properly.

Sex is taken into consideration on the score card, which has 20 points assigned to body capacity for the cow and 25 to the bull. The points are evenly divided between barrel and heart girth on the new card, whereas the division previously was on the basis of 12 and 8 points respectively in the cow. The difference in emphasis is easily explained. A bull with too large a barrel cannot serve a cow easily and effectively. On the other hand, a cow needs to consume more roughage, requiring room in the barrel region. In addition, during the late stage of pregnancy a great deal of room is needed for the developing fetus.

The stage of pregnancy does have considerable influence on the body shape, and should receive due consideration as mentioned above. During the last three or four months of pregnancy a cow also takes on weight, if fed properly, and this should be considered for proper evaluation, especially when judging the condition of fleshing and openness of ribbing. Degree of fleshing is also closely associated with stage of lactation. At the peak of her production, a good milker should be open and lean of body. At this stage she may be milked down so she is not so full in heart girth or so deep through the body. The stage of lactation should

be taken into account, and if the cow appears to be a hard worker displaying great dairy quality, due emphasis should be given to these characteristics, with little discrimination for a temporary lack in extreme depth and width of body.

As has been mentioned in Chapter 1, age has a considerable influence on body shape, which can often be used to distinguish between young and old cows. Young cows have firmer muscle tone than old cows, and considerably less girth and depth of barrel. This is effectively demonstrated in Figs. 2-5, which show the body shape of Jane of Vernon at the ages of 3, 4, 11, and 15 years. Heifers and young cows develop more body capacity as they advance in age; therefore, a slight deficiency can often be overlooked in heifers, especially in the junior yearling stage of rapid growth.

Sickness frequently affects the degree of fill a cow needs to show her body off to best advantage, but this does not deceive a good judge. Actually, when a good cow is temporarily lacking in fill, one can best appreciate her fine depth of body and length of rib. In contrast to this, some cows with poor body development are finicky eaters and frequently go off feed. If the excuse of sickness is then given for lack of body and fill, an experienced judge can nevertheless interpret it correctly.

A tight-ribbed heifer or cow can be changed in appearance by feeding large quantities of roughage, so that she appears acceptable, but again the seasoned judge will not be fooled. Animals that have proper depth can be conditioned to capitalize fully on this good conformation by feeding on a ration consisting predominantly of roughage.

DESCRIPTIVE TERMINOLOGY

To develop a good vocabulary so important in giving reasons on placings, the following descriptive terms are listed for the ideal and for deviations from it:

1. Powerful-bodied cow with a tremendous amount of depth, openness, length, and spring of rib.
2. Beautifully arched (sprung) ribs, combined with ample depth, give this individual nearly ideal body (barrel) (feed handling) capacity.
3. Sharpness and clean-cutness of her body and openness of ribbing are consistent with the great dairy quality displayed throughout her conformation.
4. Wide, refined chest, deep heart and barrel, plus exceptional spring of rib gives her a most outstanding body capacity that must be considered among the best of the breed.
5. Long, well sprung ribs give her a capacious middle and barrel capacity.

6. Although a trifle flat and deficient in the crops, and pinched in the heart region immediately behind the forearm (point of elbow), she is a large cow with very good spring and depth of rear rib.
7. Fuller in the crops, owing to more spring of fore rib.
8. Deeper heart girth (fore rib).
9. Wider (broader) chest (floor of chest).
10. Stronger (greater strength) (fuller) back of the fore arm.
11. Greater (wider) spring of rib.
12. More arch to her ribs both fore and rear.
13. Deeper-flanked cow.
14. She displays a deeper, longer, wider, more capacious barrel.
15. Ample width and strength of chest, but too thick, coarse, and meaty in the brisket.
16. Hollow, narrow chested individual, indicating small (restricted) lung capacity.
17. Too frail, over refined, and weak in the chest.
18. Weak, narrow, sunken chest.
19. Open ribbed, deep middle type.
20. Open, relaxed conformation, indicated by deep ribs that are wide apart and amply and fully sprung.
21. Short, closely spaced ribs give her compactness with a cramped capacity and objectionable form, greatly lacking in dairy quality.
22. Pinched in the heart (heart girth) (rear rib).
23. Lacks depth and fullness of heart girth (fore flank) (barrel) (rear flank).
24. Short and pinched in the fore rib (heart) (barrel).
25. Cuts in behind the shoulder with lack of spring in fore rib.
26. Over-developed, especially in the barrel.
27. Very untidy body that sags in the middle (barrel).
28. Pot bellied conformation
29. Narrow, slab sided, flat bodied individual.
30. Great spring of rib and excellent from the rear view, but a round, shallow body that lacks openness of rib when viewed from the side.
31. Greatly lacking in depth, openness of rib, and length of body.
32. Width of body is too high up, indicating short ribs and a round, shallow body.

The following photographs of different breeds, arranged according to proper body capacity within the breed, should be studied carefully to develop powers of observation and to form definite impressions, which are so important in precision judging. The seasoned judge can see differences at a glance in these pictures, but the beginner should study and

observe the animals until the contrasting differences can be visualized to the fullest extent



FIG 128 Guernsey cow with very large body, displaying a tremendous amount of depth, openness, and length of rib. Particularly pleasing are the great depth of heart and barrel, and the fullness through the heart region behind the forearm. Her refinement and strength of chest approach the ideal (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG 129 Young Guernsey cow seriously lacking in capacity. Her body is too round and shallow, and age cannot remedy this kind of conformation. She presents a strong contrast to the cow shown in Fig 128, especially in depth of body. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)

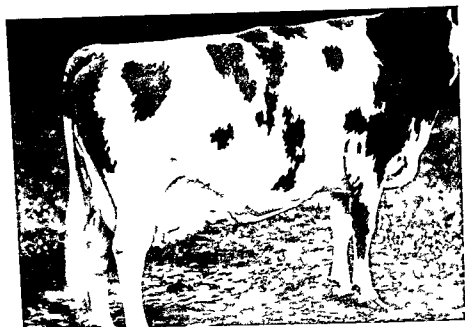


FIG 130 Large Ayrshire cow with strong, deep body, sufficient dairy quality, and openness of rib. A body with this strength has good wearing qualities (Courtesy Lippitt Farm, Hope, R. I.)



FIG 131 Brood matron outstanding among the Guernsey breed for transmitting deep-ribbed bodies for a number of generations through both male and female descendants. This cow possesses unusual depth and openness of ribbing, and a nearly ideal body of outstanding strength and dairy quality (Courtesy McDonald Farms, Cortland, N. Y.)

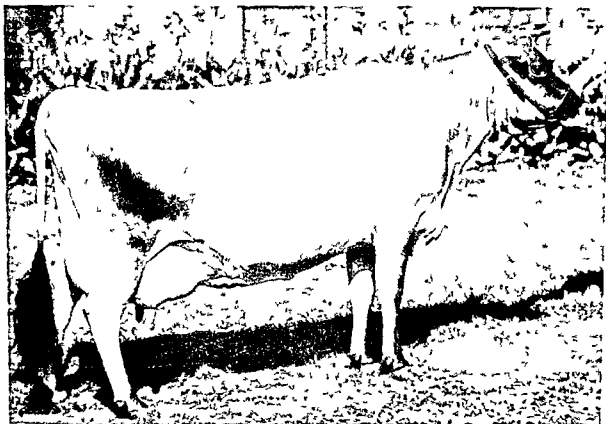


FIG. 132. This grand champion female at the National Jersey Show exhibits a deep, open-ribbed, strong body that exemplifies the proper type for the breed—a superlative combination of Jersey breed character and refinement with strength. (Courtesy Shadel Farms, Janesville, Wis.)

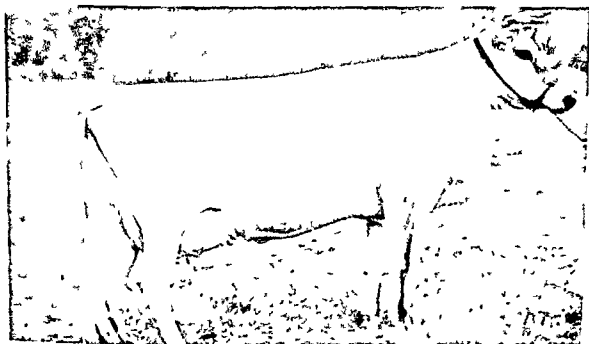


FIG. 133. An acceptable-bodied Jersey cow that will be very satisfactory in the average dairy herd, but she does not have the remarkable depth of heart and rear rib when compared with the cow shown in the preceding figure. However, to the critical judge she does have a decided advantage over the cows shown in the next two pictures.



FIG. 136. This Holstein cow, officially scored 95, displays a fine, deep, open-ribbed body of ample capacity and excellent dairy quality. Her great depth of fore and rear ribs is an outstanding example of quality, they are strongly constructed, without a hint of coarseness. (Courtesy Sunny Lea Farm, Waukesha, Wis.)



FIG. 137. The cow pictured here is mediocre, as compared with the one in Fig. 136. She has an acceptable body with only medium depth



FIG 138 This cow shows a deficiency in capacity and depth of body, especially in the rear ribs





FIG 140 The deep fore and rear ribs of this Brown Swiss cow provide a superior body capacity



FIG 141 This Brown Swiss cow has deep fore and rear ribs but lacks fullness behind the forearm



FIG 142 Brown Swiss cow with a deficiency in heart girth



FIG 143 A short body, somewhat lacking in depth of heart, is the flaw in this Brown Swiss cow. Compare Figs 140 143 which are arranged in descending order of body capacity



FIG. 144. This Guernsey cow must be criticized for being too large and untidy in body conformation, even though the photograph was taken when she was close to calving. Cows with such conformation usually have a tremendous feed-handling capacity, but are awkward and more prone to injuries.



FIG. 145. Excellent spring of rib can be observed from the back view of this Holstein cow.

FIG. 146. This cow, in contrast to the one pictured in Fig. 145, is extremely deficient in spring of fore rib, as indicated by a noticeable insufficiency in the region of the crops.



Top Lines

THE top line of cows and bulls probably does not have a great influence on productive capacity, but it does reflect in many ways the general strength and conformation of the individual

General muscle tone, the health of the animal, the condition of the legs and feet, and other characteristics of refinement and strength are indicated by the top line. Openness of form throughout the back and loin region is one of the chief indications of dairy quality. Strength of frame development can also be observed here. A strong, straight back is helpful to the mammary, reproductive, and digestive systems. The vertebral column, which forms the back, carries the spinal cord, thus, marked irregularities in the spine can affect the disposition and wearing qualities, causing premature aging in some individuals.

Proper rump conformation is important because the rump provides the support and roof for the udder. It is possible, however, for a cow to have a well formed rump with poor udder attachments. Strength of loin and a square, level, wide rump can affect the entire skeletal structure in the rear quarters. This, in turn, can determine ease of calving which, together with the way the reproductive organ is carried, greatly influences reproductive efficiency. This applies not only to individuals but to groups, such as the daughters of a particular sire.

PREFERRED TYPE FOR TOP LINES

The entire top line from the withers to the tail head, comprising the back and rump, should form as nearly a straight line as possible (Fig. 147). The back, made up of the chine and loin, should be strong and

straight, with well-defined vertebrae. The loin should be broad, strong, and nearly level.

A long, level, wide, flat pelvic region or rump is ideal. Important parts of the rump are the hips, thurls, pin bones, and tail head. The hip points or hooks should be prominently displayed, with ample width between them. They should be clean, or free from excess tissue, and should be approximately level laterally with the back. Prominent hips are associated with dairy character.

The thurls on a good rump should be wide apart and high enough so that they add to the general fullness and levelness of the pelvic region to form a square, relatively flat rump. In addition to being wide apart, the pin bones should be well-defined and free from fatty or excess tissue deposits. The region from hips to pins should be long and nearly level, although the pins can set slightly lower than the hips, especially in young animals and particularly in the Ayrshire breed.

The tail head should show refinement and should form a smooth, level ending of a straight top line. It should be slightly above, and neatly set between, the pin bones. Some breed differences are tolerated. For example, a high, somewhat prominent tail head receives only a slight discrimination in Brown Swiss, but is penalized considerably more in the other breeds. Jerseys, noted particularly for their straight rumps, occasionally have wide, flat tail heads, but these are not objectionable if they are not patchy and covered with excess fatty tissue. In judging Ayrshires, Guernseys, and Brown Swiss, the fullness and flatness of rump are not considered as important, especially for young animals, as for Jerseys and Holsteins.

DEVIATIONS FROM THE PREFERRED TYPE

Each region described for the preferred type of top line has various deviations which carry different degrees of discrimination, depending upon how pronounced the objectionable characteristic is.

The chine region is sometimes heavy and coarse, with the vertebrae placed close together. This condition is very objectionable, and the same is true of a noticeable sag behind the withers or at the junction of the chine and loin. This sagging indicates weakness. On the other hand, an arch in this region, produced by several vertebrae having been pushed up too high, is given only a slight discrimination unless the condition is so severe that it may eventually have a crippling effect.

Many deviations and degrees of deviation exist in the loin region. A narrow loin is a sign of weakness and should receive a moderate to heavy discrimination. A severe dip in the loin is serious, except in Jerseys where considerable deviation is usually tolerated. A heavy, rounded loin,

lacking in prominent vertebrae and covered with fatty tissue, is given a serious discrimination because it indicates a lack of dairy character and refinement

Hips that are very rounded and narrow are objectionable because they exemplify compactness and beef type rather than dairy quality. A capped hip due to a knocked down point of hip, is given only a slight discrimination. A heavy covering of excess tissue is very objectionable, especially during the time of lactation, when it should be milked off. The thurls should not be set too low or be too narrow to give proper fullness to the area between the hips and pins. Such a condition, which constricts the pelvic region, is assigned a moderate discrimination.

Pin bones that are pinched or set close together and conducive to difficult parturition, and those covered with excess, patchy, fatty tissue, indicating lack of productive ability or improper feeding, are scored as serious discriminations.

Objectionable features of the tail head include lack of smoothness, abrupt rounding off, too much height and prominence, and roughness and coarseness. The last condition may be caused by a cystic or diseased ovary, and is the only feature that is of any real practical or functional importance. Discrimination for all these deviations ranges from slight to serious, a serious penalty is scored only when the condition is severe. More discrimination has been given for these deviations in Jerseys and Holsteins than in Brown Swiss and the other breeds.

Deviations from the proper rump conformation include insufficient length due to short distance from hip to pins, lack of width due to insufficient distance between hips, thurls, and pins, low thurls, which cause the rump to 'shed off' too abruptly on each side, and low pins, which result in a sloping rump. If both low thurls and low pins are present in the same animal, the rump may slope both sideways and toward the back. Since all conformation in the pelvic region is closely associated with the size and shape of the udder and ease in calf bearing, the discrimination is serious for a marked deficiency in the points listed for over all rump structure.

TERMINOLOGY FOR REASONS ON PLACINGS

The following expressions are useful in describing reasons for ranking individuals on placings for top lines

- 1 Strong well carried back
- 2 Straight and strong in the back, with vertebrae well defined
- 3 Perfectly level through the region of the chine and loin
- 4 Loin that is wide (broad) flat (smooth) strong long, and spare of flesh (well-defined)

5. Narrow-loined individual.
6. Weak back (a bit slack in the back) (low in the back).
7. Lazy in the back (sags) (dips).
8. "Sleepy" top (low in the top line) (settled in the top when standing).
9. Easy (weak) (sags) in the back.
10. Slight (severe) dip at the loin disrupts the straight line of the vertebrae.
11. Lacking in width and proper flatness of loin.
12. Wave in the back.
13. Arched chine and arches (bridges) at the loin.
14. Rough back with a drop at the end of the chine.
15. Wide, prominent, well-defined hips (hip bones high and wide apart).
16. Level, sharp hooks, free from excess tissue.
17. Broad, prominent hips, which show a lot of dairy character.
18. Narrow, rounded hips, indicating a tendency toward beefiness (lack of dairy quality).
19. Capped hip (point knocked off), a slight discrimination which had no bearing on the placing.
20. Hips that carry too much patchy, fatty tissue.
21. Thurls up high and wide apart to help form a square rump and provide roominess in the pelvic region (higher and wider at the thurls) (thurls high and broad) (comparatively full above the thurls).
22. Low, narrow thurls forming a rump that sheds off to the side.
23. Wide, smooth, well defined, level pin bones (wide and high at the pins).
24. Narrow and pinched at the pins, resulting in a narrow rear udder attachment.
25. Dropping off at the pins (low at the pins).
26. Tail head carries out far enough (as it should) (properly).
27. Tail head set in smoothly.
28. Refinement and clean cutness of the level tail head.
29. Tail head drops away too abruptly (does not carry out far enough).
30. Flat, patchy, coarse tail head.
31. Very pronounced high and rough tail setting.
32. So prominent and high in the tail setting that it must be designated as *jug handled* (a cocked tail).
33. Slight discrimination for wry tail angled to the right (left).
34. Long (proper length) from hooks (hips) to pins.
35. Nearly level from hooks to pins.
36. Wide across the rump (broad, with roomy pelvis, nearly level laterally).
37. Carrying out well and nearly level over the pelvic region.

- 38 Square rump with proper width at the hooks, in advantage in wide, level pins and well filled out in the thurls Also neatly laid in at the tail setting (head)
- 39 Rump is wide to the end
- 40 Too narrow in the rump, especially at the pins, which are very restricted
- 41 Sloping rump
- 42 Droopy rump
- 43 Rump slopes both sideways and backward because of low narrow thurls and pins
- 44 Rump slopes from hips to pins
- 45 Square rump, but coarse tail setting
- 46 Patchy or beefy rump
- 47 Rough, irregular rump with a niche near the tail head
- 48 High rump raised at the tail head
- 49 Peaked over the rump
- 50 Superlative (ideal) top line, straight as a board from withers to tail head
- 51 Extremely pleasing top line, indicating a strong back, and terminating in a square rump made up of wide, prominent hips, high wide thurls, high pins, and great width and length over the entire pelvic region
- 52 Very wavy and irregular top with a drop in the chine, an arch in the loin, and tilt to the rump caused by low pins and thurls
- 53 Arched chine, dipped loin and rough irregular rump that sheds off to the side and back and carries a high rough tail head
- 54 Straight, level, nearly perfect top line, with open, well defined, well spaced vertebrae but a slight discrimination must be made for the broken tail head

Most good and bad points of conformation discussed in this chapter are illustrated in varying degrees in the following photographs Some of these are arranged in descending order and some by contrast to make them more useful from a teaching standpoint, and to show the relative importance of the deviations that are illustrated and described



FIG. 147. Level top line from withers to tail head, composed of a strong chine, a wide, level loin, and a flat, wide, level rump.



FIG. 148. Very straight and level top line, but it is not as strong in the loin and is a trifle higher at the point of withers than the animal shown in FIG. 147. These slight differences do not carry much practical significance, but must be considered in precision judging.

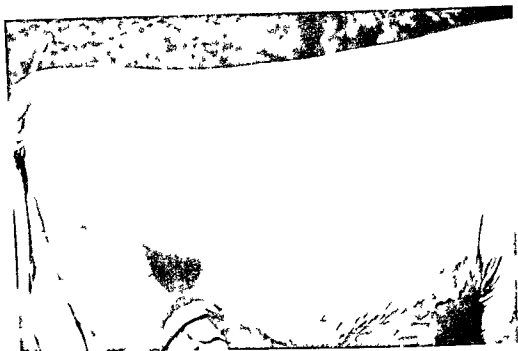


FIG 149 The top line on the famous Jane of Vernon is very satisfactory. The wide, flat, well defined loin shows a very slight dip, but the top terminates in a long level rump (Courtesy Brown Swiss Cattle Breeders Assn, Beloit, Wis.)

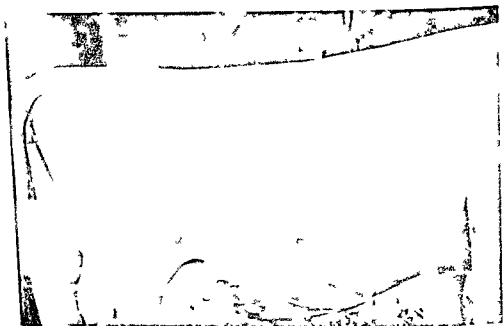


FIG 150 Top line very similar to that shown in Fig 149 but the loin does not show quite as much width and does not have the preferred flatness



FIG. 151. This top shows a slight rise at the withers and a very slight sag in the back.

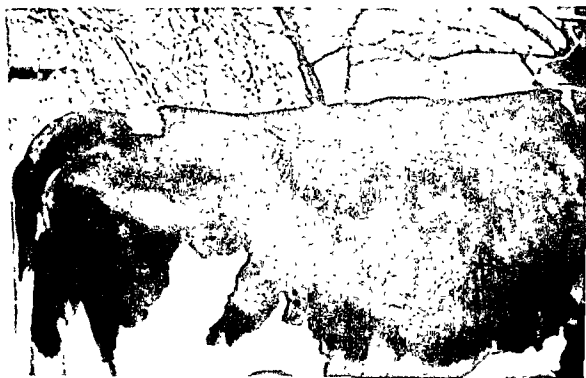


FIG. 152. An acceptable and satisfactory top, but it shows a slight unevenness in the back and is not as flat or smooth over the rump as is preferred (a slight discrimination).



FIG 153 Satisfactory top, although a trifle wavy in the back, with a slight niche on top of the rump (a slight discrimination)

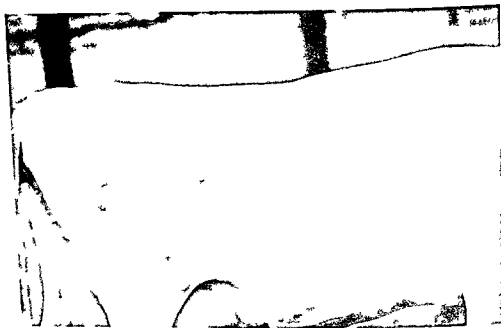


FIG 154 Top line similar to that shown in Fig 153, but irregularity of back is slightly more pronounced, with the hooks higher and pins lower, rump is rumped, and thurl region lacks fullness (a slight discrimination)



FIG. 155. This top shows a slight wave in the back, low pins, and a rough tail head (a moderate discrimination).



FIG. 156. Low loin and a slight sag in the back, rump is flat from hips to pins but rough over the pelvic region (a moderate discrimination).

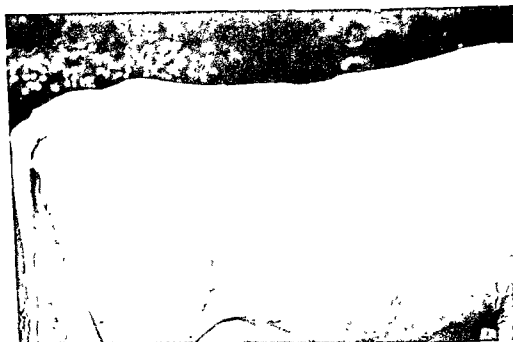


FIG. 157. This top line is wavy, especially over the pelvic region, and drops away at the rump because pins are too low (a moderate discrimination).

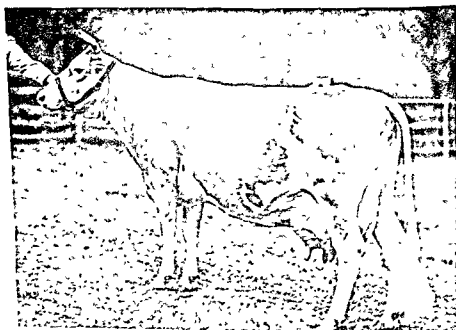


FIG. 158. Good back but droopy rump (moderate to serious discrimination).



FIG. 159. Acceptable back, but very rough rump which is low at the pins and thurls (a moderate to serious discrimination).



FIG. 160. Serious discrimination should be given to this poor top line. Note dipped, narrow loin, rough pelvic region, and narrow rump, which sheds off very abruptly on the side and is low at the pins.



FIG. 161. Rough back, with a drop at end of chine and a pelvic region with low pins and thurls (a serious discrimination).



FIG 162 Severe dip in loin badly disrupts the straight line of the vertebrae (a serious discrimination) This is a young cow, and usually the condition gets worse as a cow advances in age, preventing normal wear and aging



FIG. 163. Very wavy top indicates weakness in over-all conformation that will undoubtedly affect wearing qualities (a serious discrimination).



FIG. 164. Very weak back, especially in the region of the loin, and a rump that sheds off both sideways and backwards must be considered serious deviations from the ideal type.



FIG. 165. This rump is so steep in its slope that it should be given a serious discrimination. Its practical significance is indicated by the udder which is shoved forward and tilted as a result of the malformed structure of the pelvic region.



FIG. 166. Square, flat rump that appears nearly perfect from the rear view. (Courtesy Holstein-Friesian Assn. of America, Brattleboro, Vt.)

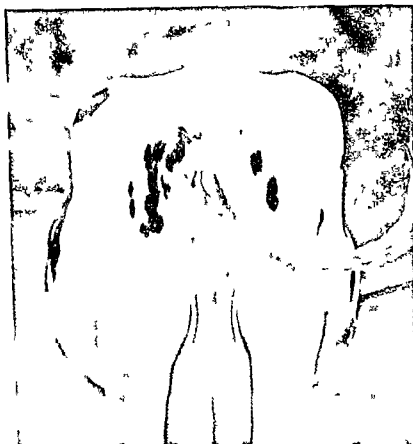


FIG. 167. Droopy rump caused by low pins. (Courtesy Holstein-Friesian Assn. of America, Brattleboro, Vt)



FIG. 168. Rump on this cow is flat, full, and wide, with high thurls, providing maximum room in the pelvic region.



FIG 169 This rump slopes too abruptly at the sides because of low thurls
(Courtesy Holstein Friesian Assn of America, Brattleboro, Vt)



FIG 170 This cow was photographed just before calving. The rump ligaments are relaxed and the tail head more prominent. This should be realized in evaluating a rump at this stage.

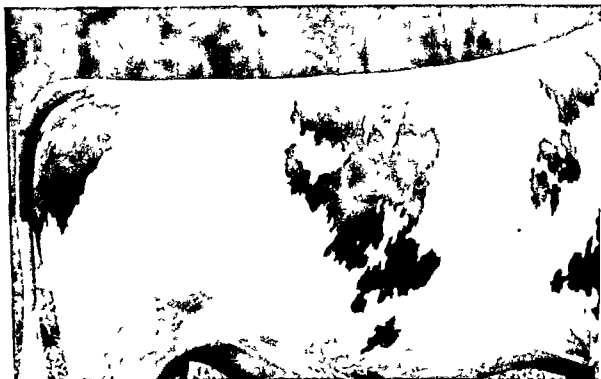


FIG. 171. Strong straight top line on this Guernsey bull terminates in a flat rump.



FIG. 172. In contrast to the top line shown in Fig. 171, this one is very wavy, and terminates in a rump that is considerably shorter from hips to pins; the pinched, closely set pins are the cause of a prominent, coarse tail head (a moderate discrimination).



FIG 173 An acceptable back but the rump terminates in a high, prominent tail head (a moderate discrimination)



FIG 174 Top line on this Guernsey bull should receive more discrimination than that shown in Fig 173 because the back arches in the region of the loin the pins are pinched and the tail head structure is even higher (a moderate to serious discrimination)

Udder Shape and Attachments

THE udder is the most useful and, therefore, the most important part of a cow. A good udder is so essential that it receives the greatest emphasis in judging. Since about one-third of the total points, or emphasis, are assigned to the udder, the animal's success in the show ring may well depend on the judge's evaluation of her udder.

Marked improvement of udders has been evident for all breeds during the past two decades, but is especially pronounced in the Brown Swiss breed. This represents the results of judgment and selection according to a specific ideal, and is an indication of what can be accomplished through breeding in dairy cattle.

Every practical dairyman knows that udders of poor conformation are more susceptible to mastitis and injury, which results in a higher veterinary cost. High production is one of the severest tests of, and strains on, an udder. Some high producers have udders far short of the ideal. If there is an inherited weakness in shape or attachments, the udder will not stand up under high production.

THE IDEAL UDDER

Every successful judge of dairy cattle must have a clear concept of the ideal udder to evaluate properly deviations from the ideal and to arrive at a correct placing. To aid in this, the ideal is herein described; later in the chapter, possible deviations are listed, together with their evaluation or importance.

The preferred type of udder is much alike for all breeds; however, a nearly perfect udder for each breed is shown in Figures 182, 181, 191,

196 and 198 The rear udder should be high wide strong and smooth in its attachment with moderate depth and large capacity (Fig 206) It should be gently rounded with both quarters the same size to give it balance The rear teats should be perpendicular or at right angles from the floor of the udder and near the back corners with a moderate distance between the two

The floor of the ideal rear udder has a slight cleft or division an udder with a perfectly level floor sometimes develops a break in the floor or sole The division is necessary to give enough room for congestion and swelling before and after calving without injury to the udder (This is another instance of the advantage of a practical knowledge of functional aspects in making good judgments in the show ring) Finally the rear udder should be so placed that it fits properly with the fore udder

The fore udder is very important to the over all udder conformation A type deficiency has existed in this particular part for many years From a functional standpoint the fore udder is the most important individual part of a dairy cow and the one in which the greatest improvement through selection and breeding is possible

In form the fore udder should be moderately capacious Its floor should continue at the same level as that of the rear udder The ideal fore udder is moderately long and has a gentle and gradual curve upward before it blends smoothly with the body

A strong attachment will hold a high producing udder in place for many years and will prevent the formation of abnormal tissue and edema (collection of lymph fluids) in the udder The term *moderately long fore udder* is used because one that is intermediate in length with a strong smooth attachment is likely to wear longer on a high producing cow than an exceptionally long one which breaks more readily at the point of attachment Here again is illustrated the importance of the practical approach in setting up the standard

Both fore quarters should be equal in size and shape and together with the rear quarters should form a well shaped udder The floor of the udder should have a slight division for the same reason as described for the rear quarters but this should never be a marked cleft

The teats should be uniformly placed at the corners of the udder floor They should hang straight down from the udder floor and should be of average convenient size and shape This is important because the teat and the udder size and shape are often associated with good milking qualities

The veining of the udder and body is no longer emphasized as it was some years ago but it is still considered important As a rule promi

ment udder veining is an indication of high quality, but in exceptional cases distended veins may indicate lack of quality.

Udder quality refers to the condition of the secreting tissue in the udder. Good tissue is soft, pliable, and spongy to the touch, with no firm, fatty tissue or edema in the udder. Edema causes abnormal congestion at calving time and persists after cows have been fresh for a long time. A "meaty" udder is a relatively poor producer.

To a large extent, udder quality can be accurately estimated by observation, but even after much experience it is advisable, when judging, to handle and examine the udder. When this is not possible, udder quality and strength of fore and rear attachments can be observed best when the cows are walking.

UDDER ATTACHMENTS

To evaluate udder attachments, the judge must know how the udder is suspended from the body. The seven supporting structures are best demonstrated by pictures (Figs. 175-181) based on studies made by the research staff of the United States Department of Agriculture Bureau of Dairy Industry.* These researchers list the following means of udder suspension:

1. The skin.
2. A sheet of fine connective tissue just beneath the skin.
3. Cordlike tissue connecting the udder and body wall.
4. Fibrous and elastic tissue which forms a sling downward and forward over the udder.
5. Deep side tissue, suspended from the pelvis (bony structure of the rump) by the subpelvic tendon, envelops the udder and is fastened to the lower side.
6. Subpelvic tendon which extends from the center of the pelvis to the center line of the udder so tissues 4 and 5 can attach to it.
7. The middle yellow elastic tissue which attaches to the body wall on one end and extends down between the two halves of the udder to divide it lengthwise. This forms the median suspensory ligament.

The importance of the suspensory attachments for the udder is indicated by the weight they have to carry. Research workers in the Bureau of Dairy Industry at Beltsville reported an average empty weight of 52 pounds for 50 udders removed from lactating cows. The udders of Holstein cows, during the early part of the lactation, averaged 73 pounds. To this must be added the weight of the milk and blood in the udder.

* W. W. Swett, P. C. Underwood, C. A. Mathews, and R. R. Graves, "Arrangement of the Tissues by Which the Cow's Udder Is Suspended." *Journal of Agricultural Research* 65:19-43, 1942.



FIG 175 The skin tissue serves in a minor capacity to suspend and stabilize the udder (Courtesy Dairy Husbandry Research Branch, Agr Research Service U S D A)

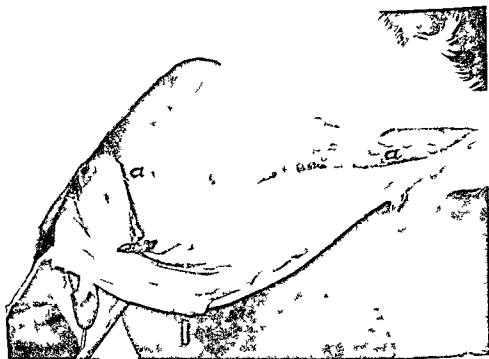


FIG 176 A sheet of fine connective tissue just beneath and loosely attaching the udder to the skin is clearly shown between points (a)-(a) The fine subcutaneous tissue (superficial fascia) serves as an attachment between the skin and the underlying tissues (Courtesy Dairy Husbandry Research Branch Agr Research Service U S D A)

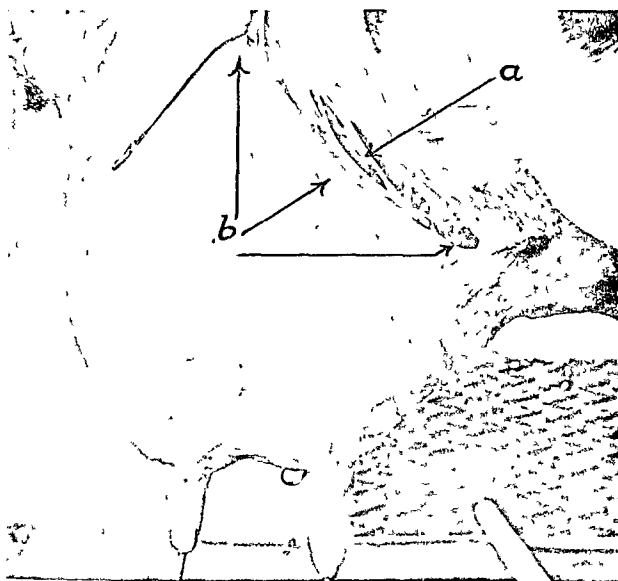


FIG. 177. The cordlike tissue connecting the udder and the body wall is shown at the tip end of arrow (a). This tissue forms a loose bond between the upper surface of the front quarters and the abdominal wall. It may give way because of excessive udder weight, injury, or inherited weakness, and permit a separation between the udder and the abdominal wall. This familiar "breaking away" of the front quarters is sometimes extensive enough to permit one's hand to be inserted between the cow's abdomen and the top front quarters of the udder. The condition is not too serious, however, until the break becomes severe; udders often function normally for years after tissue No. 3 has allowed the front quarters to become loosened. The tips of arrows (b) show the very important sheet of suspensory tissue (No. 5) which envelops the entire udder. (Courtesy Dairy Husbandry Research Branch, Agr. Research Service, U.S.D.A.)

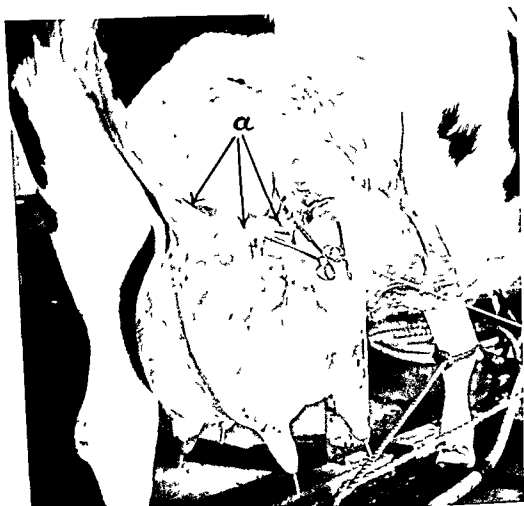


FIG. 178. Fibrous and elastic tissue No. 4, known as the lateral suspensory ligament, forms a partial sling downward and forward over the udder. This is an important means of suspension near the surface, and attaches the udder to the body wall and also to the inner surface of the thigh. The severed edge of tissue No. 4 is indicated by the line following the tips from the arrow arising at (a). It is held in place after dissection by the forceps attached to the tissue. (Courtesy Dairy Husbandry Research Branch, Agr. Research Service, U.S.D.A.)



FIG. 179. Deep side tissue No 5, a tough, fibrous, suspensory tissue that practically envelops the udder. It is connected to the floor of the pelvic bones by tissue No. 6, and is fastened on the other end to the lower surface of the udder by numerous platelike attachments which pass into the gland and become part of the framework of the udder. The tissue has been severed at (a) and folded back along the line b-b to show how it envelops the udder. (Courtesy Dairy Husbandry Research Branch, Agr. Research Service, U.S.D.A.)



FIG 180 The subpelvic tendon resembles a cable or rope, extending from the floor of the pelvic arch and the thurls to the center line of the udder so that tissues 4 and 5 can attach to it (Courtesy Dairy Husbandry Research Branch, Agr Research Service, U S D A)

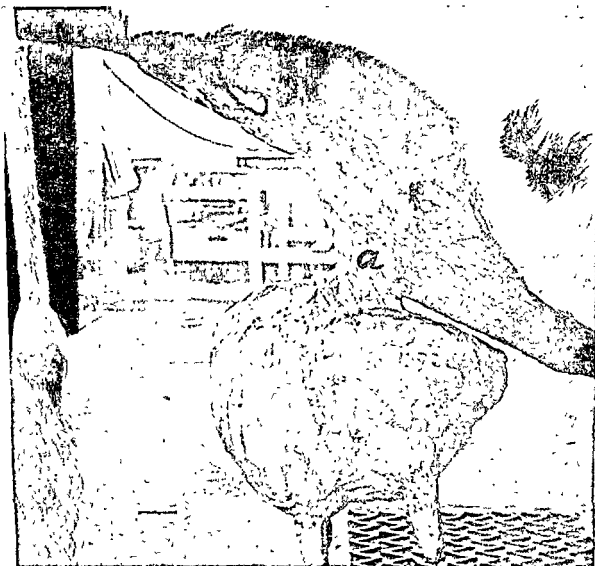


FIG. 181. The middle yellow elastic tissue No. 7 consists of 2 strong sheets attached to the body wall just above the center of the udder. It extends down between the halves of the udder to form an important means of support, and divides the udder lengthwise into distinct halves. The great strength and the nearly perfect location of this middle support are shown by (a). (Courtesy Dairy Husbandry Research Branch, Agr. Research Service, U.S.D.A.)

It is estimated that high-producing udders, together with their contents, weigh between 100 and 250 pounds. This load must be well suspended if it is to remain in proper position.

Some of these attachments may be faulty and others good, which accounts for the many different degrees of faulty udder attachments. It also explains why a partially weakened fore udder may remain in the same state for many years, or, on the other hand, may become completely broken within a year.

DEVIATIONS FROM THE IDEAL

Expected deviations from the ideal and possible defects in the mammary system are listed below. The seriousness of the defect as evaluated by successful and prominent judges, is indicated by the degree of discrimination recommended. To a large extent, the discrimination is based on the functional and economic importance of the impairment in terms of lifetime production. The final discrimination depends entirely on the degree of deviation from the ideal. By applying good judgment to the variation, and considering how much it may decrease production, it is possible to arrive at a correct placing and one that will be fairly uniform for a group of several judges.

A detailed description of these deviations is not necessary if one keeps the ideal clearly in mind. For degree of discrimination, *slight* is equivalent to 3 or 4 places; *moderate*, 8 to 10, and *serious*, 15 to 18 places in a very close class of 20 or more individuals of good type. Disqualification means that all animals in the class not disqualified will be ranked above the disqualified individual. If there are several disqualified animals, these will be ranked at the bottom of the class. The range of discrimination on faults allows for different degrees of deviation.

Deviation and Defects

Degree of Discrimination

- | | |
|---|----------------------------------|
| 1. Fore or rear attachment fairly good but not firm | Slight |
| 2. Loose fore or rear attachment | Moderate |
| 3. Weak udder attachment | Slight to serious |
| 4. Broken fore or rear attachment | Serious |
| 5. Pendulous udder (broken fore attachment) | Very serious to disqualification |
| 6. Tilted udder with deficient fore attachment | Moderate to serious |
| 7. Tilted udder with low hanging rear udder | Serious |
| 8. Short fore udder | Moderate to serious |
| 9. Small udder lacking in capacity | Moderate to serious |
| 10. Round, tight udder | Serious |

11. Udder hanging or pitched too far forward	Moderate to serious
12. Too much udder showing back of rear leg	Slight
13. Too little udder showing back of rear leg	Moderate to serious
14. Broken floor of udder	Serious
15. Bulging fore udder	Moderate to serious
16. Light unbalanced quarters	Slight to serious
17. Quartered and halved udder	Slight to serious
18. Teats pointing forward	Slight to moderate
19. Teats pointing outward	Moderate to serious
20. Rear teats too close	Slight
21. Teats too close from side view	Moderate to serious
22. Teats too far on outside of quarter	Moderate to serious
23. Lack of udder and/or body veining	Slight to moderate
24. Hard spots in udder	Slight to serious
25. Abnormal milk (bloody, clotted, watery)	Slight to serious
26. Side leak or obstruction in teat	Slight to serious
27. Edema or permanent congestion in udder long after calving	Serious
28. Blind quarter	Disqualification

If an inexperienced judge remembers the degree of discrimination assigned to each deviation from the ideal and evaluates the particular characteristic accurately, he can arrive at a sound placing.

UDDER TERMINOLOGY

A judge should develop a good vocabulary for describing type characteristics and deviations observed. To accomplish this, udder terminology will be developed similar to the procedure used in previous chapters for the other points of conformation.

Similar words or sentences are occasionally included to build up a vocabulary with various expressions for giving reasons. Expressions describing favorable and unfavorable type characteristics follow:

Favorable:

1. High, wide, and strong (firm) (smooth) rear udder attachment.
2. Long, level, smooth, firm (strong) fore udder attachment.
3. Capacious udder extending far forward.
4. Large udder with an advantage in capacity.
5. Excellent size and shape of udder.
6. Proper amount of udder showing in back of rear leg.
7. Udder with excellent width as indicated from the rear view.
8. Udder that is uniformly wide, from attachments to udder floor.
9. Udder that closely approaches perfection.
10. Mature udder, excellent in every respect, with no evidence of wear.
11. Proper depth of udder.

- 12 Symmetrical (symmetry of udder)
- 13 Greater development of udder
- 14 Evenly balanced and strongly attached udder (evenly balanced quarters) (exceptional balance of udder or quarters)
- 15 Udder attached neatly in its junction with the body wall
- 16 Fore udder full and well developed
- 17 Fore udder extended (carried) farther forward on barrel
- 18 Quarters evenly (uniformly) developed and joined (each quarter perfectly balanced and equally developed)
- 19 Udder is pliable, soft, and spongy and therefore excellent in texture and quality (high quality and no meatiness)
- 20 Nearly ideal spacing of teats (uniformly, or evenly spaced teats)
- 21 Symmetrically placed teats of uniform and convenient shape and size
- 22 Ideally spaced teats at each corner of the udder floor (teats set neatly on the udder floor)
- 23 Teats that hang perpendicularly from the quarters
- 24 Prominent (tortuous) (distinct) (extensive) veining on udder and/or on body (barrel) (Long large, prominent body veining)
- 25 Abundant (numerous) well defined udder veins (A close network of veins on the udder)

Unfavorable

- 1 Weak attachment of fore (rear) udder
- 2 Broken attachment of fore (rear) udder (Fore, or rear, quarters broken away at the attachment)
- 3 Pendulous (swinging) udder
- 4 Pear (cup-) (funnel) (pumpkin) shaped udder
- 5 Low hanging weakly attached udder
- 6 Small udder with deficient undersized quarters (Small rear, or fore quarters lacking fullness and development)
- 7 Udder lacking width depth, and capacity (Small udder with lack of capacity)
- 8 Shallow fore and rear udders
- 9 Round tight udder with limited capacity
- 10 Udder cut up (divided) too much between the quarters (Udder badly quartered and halved)
- 11 Low hanging rear udder Rear (fore) quarters hanging lower than (far below) fore (rear) quarters
- 12 Narrow (pointed) weak (loose) rear attachment
- 13 Bulging rear udder, with too much showing behind the rear leg

14. Deficiency of rear udder, with not enough udder behind the rear leg.
15. Rear udder pitched forward.
16. Cuts up abruptly in the fore udder.
17. A bulging fore udder.
18. Tilted, deficient fore udder.
19. Unbalanced udder with large rear quarters.
20. Floor of udder lower than the point of hock.
21. Broken floor (sole) of the udder.
22. Quartered, halved, cleft udder. (Severe cleft in floor of the udder.)
23. Unbalanced (light) (heavy) (enlarged) (hard) (slack) (weak) (deficient) quarter.
24. Udder seriously lacking in quality. Lumpy (meaty) (hard) udder.
25. Edema or congestion of udder long after calving. (Udder with permanent congestion.)
26. Irregular (small) (funnel) (pencil) (long) (tapering) (defective) (large) (bottle-shaped) teats.
27. Teats hanging too close together from rear view (side view).
28. Teats set too far on the outside of the quarter.
29. Teats pointed (strut) forward (outward).
30. Small milk veins. (Udder almost completely devoid of milk veins.)
31. Small, short milk veins on the body.
32. Side leak or blemished teat.
33. A blind, nonfunctional quarter.

CONSIDERATION OF AGE AND STAGE OF LACTATION

The age of a dairy cow should always be taken into consideration for proper evaluation of the udder, since udder shape and size change.

A careful observer estimates the age of a cow fairly accurately before examining the udder. Evaluation of wearing qualities and strength of fore and rear attachment must be much more critical in young cows than in older animals. If a young cow shows too much wear in her udder, her future is not promising. Some wear can be expected in older cows, especially those with exceptional dairy qualities and outstanding production.

Stage of lactation has a definite effect on the condition, shape, and quality of the udder. Here again the judge can make a reasonably accurate estimate if the exact information is not available. Judging a dry udder requires special techniques and observations, as discussed in Chapter 16.



FIG 182 A nearly perfect Ayrshire udder. Many unusually fine udders are found in this breed. (Courtesy Windrow Farms, Birmingham, Mich.)

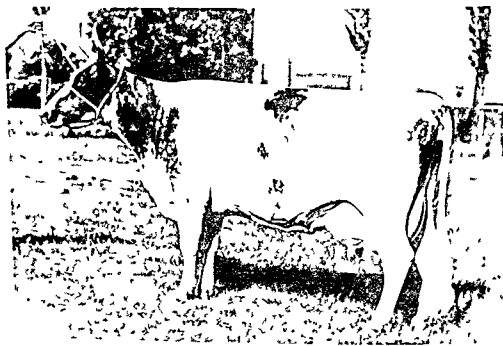


FIG 183 Udder of a 12 year-old Ayrshire cow after she had achieved a world's record with 21,156 lbs of milk, 4.35%, 1356 lbs of fat in 365 days on 3X milking. (Courtesy Ayrshire Breeders Assn., Brandon, Vt.)



FIG. 184 (A and B). Udder of Jane of Vernon as a young cow and at 11 years of age. This cow had one of the best shaped and best quality udders ever known to any breed. It was superior to the ideal Brown Swiss udder, and can serve as the ideal for any breed. A Grand Champion at the National Dairy Cattle Congress for 5 years in succession, her production included a world's record as a 4-year-old, with 1076 lbs. of fat. She had two records of over 1000 lbs. of fat. Through her transmitting ability she had a powerful influence on udder and body type improvement of the Brown Swiss breed. See Figs. 2 to 5 for this cow at 3, 4, 11, and 15 years of age. (Courtesy Brown Swiss Cattle Breeders Assn., Beloit, Wis.)

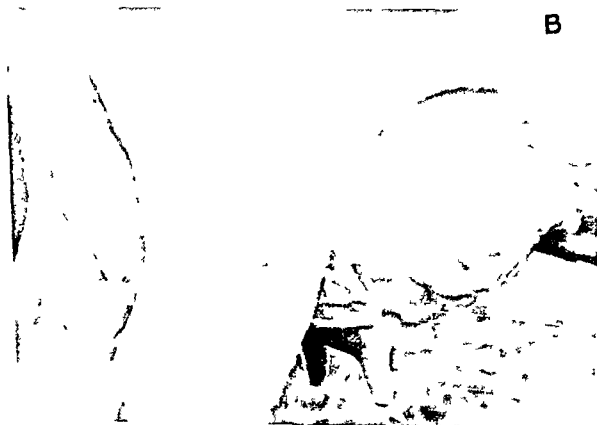




FIG 165 A narrow rear attachment on a 2 year-old! The fat production from this udder was very mediocre (200 lbs less than that from the udder illustrated in Fig 150), and this udder was on the way down at 5 years (Courtesy Holstein Friesian Assn. of America, Brattleboro, Vt)



FIG 186 (A and B) Famous show-cow with a superior udder, at 2 years and at 5½ years at the completion of a high record (Courtesy Holstein-Friesian Assn. of America, Brattleboro, Vt)



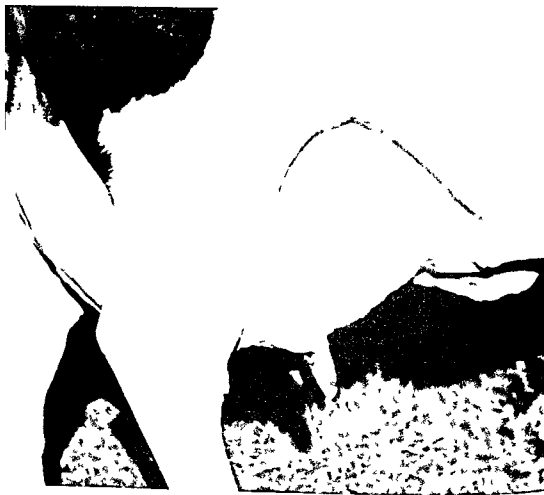


FIG. 187. This udder broke the world's record twice. The highest record of 36,414 lbs. of milk and 1512 lbs. of fat followed a previous record of 1414 lbs. of fat. This cow is bred for conformation to withstand high production. Her sire was a son of the former world's champion for both milk and fat (1402 lbs. of fat). (Courtesy Carnation Farms, Seattle, Wash)



FIG. 188. Udder of superlative quality on a Holstein cow with the world's record for milk and fat on 2X milking. After a previous record of more than 30,000 lbs. of milk, the above udder produced 35,564 lbs. of milk, 3.7 per cent, and 1319 lbs. of fat at 6-11 in 365 days on 2X. Her well-attached udder handled like silk after this strenuous production. Her next record, also on 2X milking, was 32,388 lbs. of milk and 1221 lbs. of fat. Udder quality and high production depend on proper secreting tissue. The udder pictured here produced over 120 lbs. daily for 3 days, over 100 lbs. for 220 days, and averaged 97.6 lbs. for the entire year on 2X milking. Good udders can stand heavy production without breaking away. (Courtesy Archie Meek, Norwich, N. Y.)



FIG. 189. Good udder of Brown Swiss cow produced 31,283 lbs. of milk, 1379 lbs. of fat for a national record in 365 days on 3X milking. (Courtesy Lee's Hill Farm, New Vernon, N. J.)

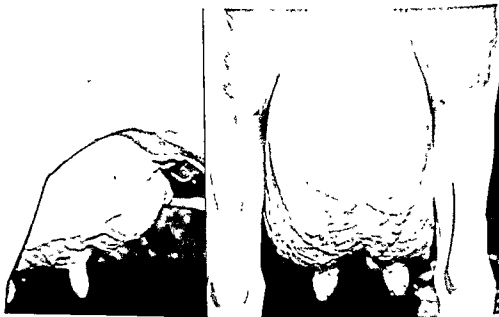


FIG. 190 (A and B). Side and rear views of udder of Guernsey cow with a national record for milk production. This udder produced an average of 73 lbs. daily to total 26,672 lbs. of milk, 1120 lbs. of fat in 365 days on 3X milking. (Courtesy Welcome-In Farm, Dublin, Ohio)



FIG. 191 (A and B). Excellent udders on two Jersey sisters with outstanding production. The udder on the left achieved a new national record of 17,496 lbs. of milk and 829 lbs. of fat in 365 days as a senior 2-year-old. This cow averaged 47.9 lbs. of milk per day during the year for her first record, with the high day 10 lbs. above this. The udder was photographed at the completion of her record, after she had produced 21 times her weight in milk during the first 12 months. Without a dry period, she made a high record as a senior 3-year-old and followed this with a new national record for both milk and fat as a senior 4-year-old. The sister's production has been almost as good. The females in this pedigree include a number of great lifetime milkers, and the 14 nearest relatives are classified Excellent. This cow is in the fifth generation of Excellent cows. (Courtesy Marlu Farms, Lincroft, N. J.)



FIG. 192 (A and B). A dam, on the left, and her daughter, with udders that classified Excellent and broke the national records for production. The udder of the dam set a new national record for junior 2- and 3-year-olds (18,493 lbs. of milk, 4.4 per cent, 811 lbs. of fat on 2X). The daughter set a new national record for senior 3-year-olds (15,448 lbs. of milk, 5.1%, 779 lbs. of fat actual on 2X). This combination of type and production in successive generations was due to a carefully planned breeding program. (Courtesy Vista Grande Farm, Cropseyville, N. Y.)



FIG 193 High producing cow, showing excessive wear from high production. Note her broken fore udder and rear udder which will greatly lessen her ability to continue the high production as she gets older.



FIG 194 Excellent udder veining on a high producing Holstein cow. This is a continuation of prominent and tortuous body veining.



FIG. 195. Body veining on a Brown Swiss cow with unusually high production records.

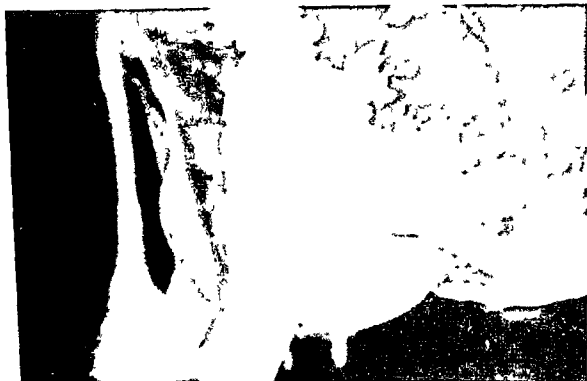


FIG 196. This nearly ideal udder of a famous Guernsey show-cow held up to an advanced age with no sign of weakness in the strong, smoothly attached fore and rear udder. Note the perfect proportion, level floor, and general shape (Courtesy Curtiss Candy Company, Cary, Ill)



FIG 197 Superior udder of Brown Swiss cow that won the Best udder Class at a national show. The quality of this shapely udder with its strong attachments predicts high production for many years. (Courtesy Lee's Hill Farm, New Vernon, N. J.)



FIG 198 Excellent udder of a Holstein cow with an over all classification of 95. Many breeders prefer an intermediately long fore udder because it wears well and does not break as easily as an extremely long fore udder. (Courtesy Sunny Lea Farm, Waukesha, Wis.)



FIG. 199. A fore udder that cuts up too abruptly in front of the fore teat. It also lacks strength and smoothness of attachment.



FIG. 200. Short, loosely attached fore udder that is too rounded on each side of the teat.



FIG. 201. Rounded udder with a broken fore attachment and a loose rear attachment. The gaping fore udder should receive a serious discrimination.



FIG. 202. Tilted fore udder and loose rear udder attachment that pushes the rear udder ahead too far and causes the teats to point forward.



FIG 203 Poorly attached, tilted udder, with the teat too far on the outside of the fore udder



FIG 204 Superior udder of a Brown Swiss cow. Note the wide, strong, smooth attachment of the rear udder. This cow was several times a winner of the Best udder Class at national and international shows (Courtesy Lee's Hill Farm, New Vernon, N. J.)



FIG 205 The exceptionally wide spacing of teats on this udder is admirable, but the rear udder bulges and extends out so far that it has to cut back at the attachment. Also the fore udder is longer than necessary. An udder that is as long in attachment as this fore udder is susceptible to severe "breaking away," which permits lymph to collect in the udder tissue and interferes with normal function.



FIG. 206. *Rear view of the udder shown in Fig. 204. This rear udder, with its wide, smooth, strong, and even attachment, and perfect size and proportion, can serve as an ideal. (Courtesy Lee's Hill Farm, New Vernon, N. J.)*



FIG. 207. *Narrow, pinched, loosely attached rear udder of a young cow. Udders of this sort do not hold up, and they receive serious discrimination.*

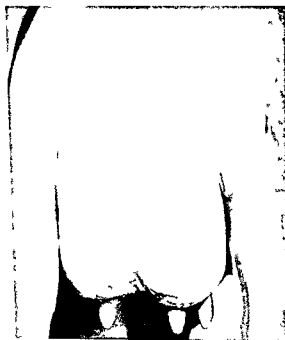


FIG. 208. Slight unbalance can be observed between the rear quarters. However, no udder is perfectly balanced between the quarters, and there is no cut or discrimination for this slight deviation



FIG 209 Broken rear attachment permits the rear udder to drop, causing an uneven, tilted udder floor



FIG. 210. No discrimination is made for small extra rear teats if they appear non-functional. Good management procedures, however, direct that extra teats be removed at approximately one year of age.



FIG. 211. Rear udder with a good attachment, but the fullness (straight floor of udder from rear view) between the teats is objectionable because there is no room for the inflammation usually present in an udder before and after calving.



FIG 208 Slight unbalance can be observed between the rear quarters. However, no udder is perfectly balanced between the quarters, and there is no cut or discrimination for this slight deviation.



FIG 209 Broken rear attachment permits the rear udder to drop, causing an uneven, tilted udder floor.

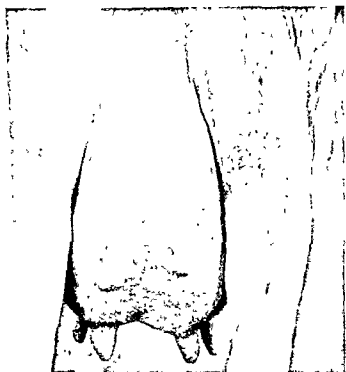


FIG. 210. No discrimination is made for small extra rear teats if they appear non-functional. Good management procedures, however, direct that extra teats be removed at approximately one year of age.



FIG. 211. Rear udder with a good attachment, but the fullness (straight floor of udder from rear view) between the teats is objectionable because there is no room for the inflammation usually present in an udder before and after calving.



FIG 212 Division between these rear quarters is fairly pronounced when compared with that shown in Fig 206, which is considered ideal. However, this condition is preferable to that illustrated in Fig 211, and the udder is sound from a functional standpoint. Therefore, it should be considered satisfactory without discrimination.



FIG 213 A good, practical, working udder with teats of proper size. (Courtesy Walhalla Farms, Rexford, N. Y.)



FIG. 214 (A and B). Side and rear views of teats that should receive a serious discrimination for lack of proper length. Teats as short as this are not convenient for either hand- or machine-milking.





FIG. 215. This udder is well attached and satisfactory, but the teats are too long (a moderate discrimination).



FIG. 216. These teats are too pointed and tapered, which causes difficulty during milking (a moderate discrimination)



FIG. 217. Funnel-shaped teats (moderate discrimination) on a poorly attached udder (serious discrimination).



FIG 218. Funnel-shaped teats placed too close together on a tilted udder with poor attachments (a serious discrimination)



FIG 219 Large teats (moderate discrimination) and large, loosely attached udder (serious discrimination) make a very objectionable combination



FIG 220 Loosely attached udder with teats close together and pointing forward (a serious discrimination)



FIG 221 Small, poorly attached, quartered udder The short fore udder has teats that point forward and outward (a serious discrimination)



FIG 222 Broken fore and rear udder attachments This resulted in an ill-shaped, swinging udder, very susceptible to injury



FIG 223 Broken fore and rear attachments permitted this udder to drop in front so that the fore teats point backward. This udder will be susceptible to easy injury and must be very severely criticized.



FIG 224 Broken fore and rear attachments make this udder pendulous.



FIG. 225. Severe break in rear udder, combined with permanent congestion, produced this ill-shaped udder, which should be penalized to the extent of disqualification.



FIG. 226. Pendulous udder entirely lacking in fore and rear attachments. Because the structure of this udder will seriously interfere with production, it is rated the lowest of all the faulty udders shown. The discrimination against this udder is the equivalent of a disqualification.



FIG. 227. Superior udder on a 9-year-old heavy producer. She had a high 2-year-old record of 15,370 lbs. of milk and 533 lbs. of fat on 2X, and more than 20,000 lbs. of milk on 2X in 10 months at 9 years of age. High production during the first lactation does not break down a well-attached udder. This udder milked 46 lbs. at the next regular milking after this photograph was taken. (Courtesy Collins Crest Farm, Malone, N. Y.)

Dairy Character

IN GENERAL, cows that are lacking in dairy temperament are correspondingly poor producers, and cows of outstanding dairy temperament make high production records. There are exceptions to this, but in judging it is best to play the odds in favor of making a correct evaluation and decision. A judgment based on correct analysis of dairy character rarely fails the judge in the task of selecting a useful, high-producing cow.

Heavy, coarse cows, seriously lacking in dairy character, usually convert a proportionately larger amount of feed into body maintenance and fat than do cows of exceptional dairy quality. From this, it is apparent that a poor producer on a good ration will accumulate fat and fleshiness, and that as her body takes weight she will require more feed for maintenance. These fleshy animals usually produce considerably less milk than do sharp, angular cows of the same skeletal size but weighing several hundred pounds less.

Dairy quality does not imply a thin, emaciated condition, for dairy character is at its best when combined with strength, which provides staying power for sustained high production year after year. A frail cow cannot meet the energy requirements of cumulative high production. A certain amount of fleshing and strength of frame are necessary to provide outstanding wearing qualities. One should think of dairy quality as a combination of refinement and strength.

It is now generally recognized that fat deposits and beefiness interfere with the functioning of the vital organs and the secreting tissue in the udder of a dairy cow. In contrast, a spare, lean frame, indicative of a highly developed nervous system, is usually a sign of heavy milk production. The author has made a special study of the form and dairy character of high lifetime producers and of cows in the 100,000-pounds-production class at shows. Almost without exception, such cows are

angular with a very lean neck and sharp open conformation showing a good frame with ample dairy refinement

IDEAL DAIRY QUALITY

Dairy character is best indicated by a clean cut spare open conformation and a strong refined appearance with freedom from coarseness and excess flesh throughout. The head should be clean cut and should possess plenty of character. The neck should be long and thin and should blend smoothly. The withers sharp angular and well defined. The vertebrae of the spine open prominent and clean cut. The rib bones flat wide long and far apart to give openness of body. The hooks or hips very prominent sharp and well defined. The pins sharp and the thighs thin and incurving.

Possession of these characteristics normally shows that a dairy cow is turning just about all of the feed consumed over and above maintenance into milk production rather than body fat. Condition which designates the amount of fat and fleshing that an animal carries is important in evaluating dairy character. The experienced judge knows how to make due allowance for the influence of late lactation or the dry period.

POSSIBLE DEVIATIONS FROM THE PREFERRED TYPE

Deviations from the ideal dairy character include in varying degrees the following: short heavy coarse head, short thick neck, heavy coarse beefy shoulders with broad heavily covered withers, closely spaced poorly defined and heavily covered vertebrae, rounded hips which carry excess fleshing, pins lacking in sharpness and covered with meat and fat, sometimes in patches, thighs that are thick fleshy and straight rather than incurving. In general an animal that is seriously lacking in dairy character appears coarse heavy patchy over conditioned and far too compact in body conformation.

In previous chapters an extensive terminology has been presented but this procedure will not be followed for dairy character. The description of ideal dairy quality and of the possible deviations is couched in ordinary descriptive terms. Moreover the reader should have studied enough examples by this time to have acquired the ability to prepare his own vocabulary.

The photographs used in this chapter to illustrate dairy character or the lack of it should be helpful in learning how to evaluate this characteristic and in attaining proficiency in judging.

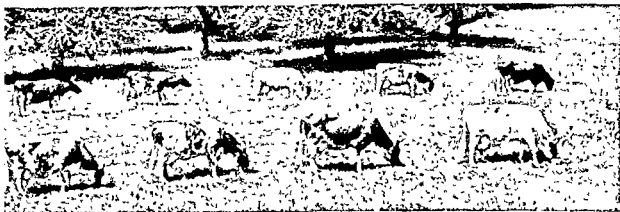


FIG. 228. This group of Ayrshire cows has a total cumulative production of more than a million pounds of milk. Each of the nine cows has produced more than 100,000 pounds of milk. Note the great dairy character displayed by each one of these cows. (Courtesy Strathglass Farm, Port Chester, N. Y.)

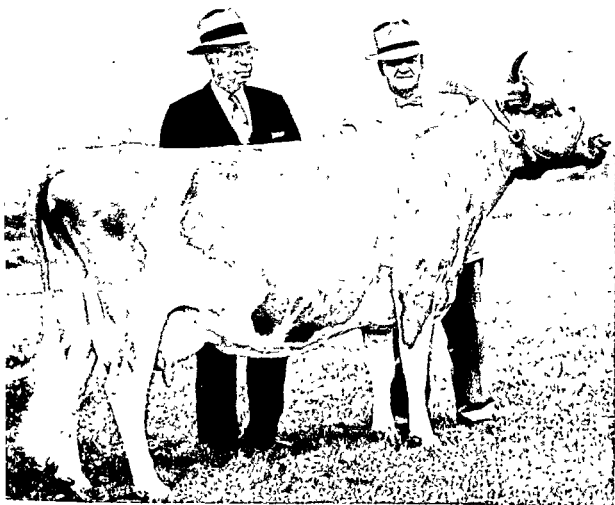


FIG. 229. Guernsey cow with superlative dairy character. Note the flat, widely spaced ribs, clean-cut head and neck, strong heart region, sharp withers, refined shoulders, prominent hooks, level and refined rump, incurving and shapely thighs, and the over-all combination of sharpness, clean-cutness, refinement, and strength throughout her body. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)

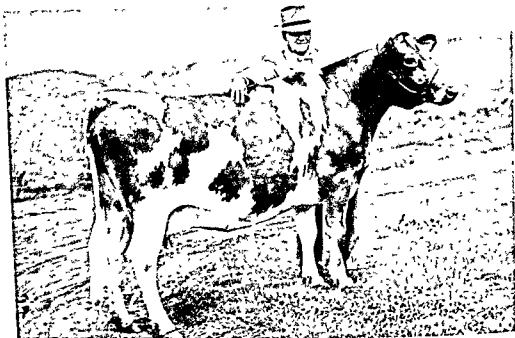


FIG. 230. In contrast to the Guernsey shown in Fig. 229, this cow lacks dairy character. She carries too much flesh, has a short blocky head, is wide and flat on top, close in rib placement, and is heavy and thick throughout, as indicated in the neck, shoulders, loin, rump, and thighs. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 231. This cow has many of the characteristics listed for dairy character, but she shows weakness and lack of dairy capacity. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)



FIG. 232. Ayrshire heifer with satisfactory dairy character. She is a trifle prominent at the point of shoulder, but has a long, clean neck and sufficient openness of rib. (Courtesy Strathglass Farm, Port Chester, N. Y.)



FIG. 233. This Ayrshire heifer has a remarkable amount of dairy character. For example, she is much sharper and more open in ribbing than the animal pictured in Fig. 232. (Courtesy Strathglass Farm, Port Chester, N. Y.)



FIG. 234. Ayrshire heifer with good dairy character but carrying too much weight. This condition is extremely detrimental to productive ability and wearing quality later in life (a serious discrimination).

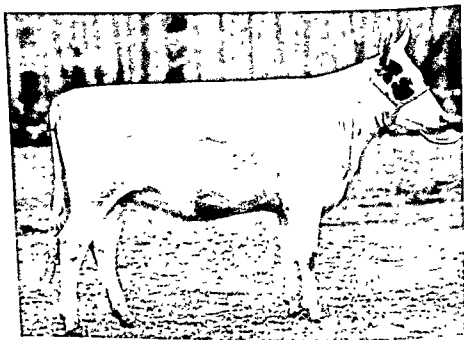


FIG. 235. Mediocre Ayrshire heifer, with little dairy quality. The ribs are too close together, forming a compact body; in addition, the head is plain and the neck too short (a serious discrimination).



FIG. 236. Strong heifer, somewhat lacking in sharpness. Her dairy quality is not outstanding. It is usually possible to predict a heifer's appearance in milking form (see Fig. 237).



FIG. 237. Here the heifer pictured in Fig. 236 is shown as an All-American 3-year-old. Although of strong conformation, she is deficient in dairy character, just as she was earlier. This can be better appreciated when she is compared with the cow shown in Fig. 238.



FIG 238 This 3 year old cow was so outstanding in dairy character and other points of conformation that she won first prize at the national show and was voted All American as a 2, 3, and 4 year-old. Note the sharpness, openness of body, especially about the ribs, clean-cutness, and strength throughout her body (Courtesy Harvey A. Nelson and Sons, Union Grove, Wis.)



FIG 239 Outstanding dairy character in a high producing, All American cow just before freshening. The additional fleshing is necessary at this stage, and a good judge can visualize the cow as she will look during heavy production (see Fig. 240) (Courtesy Woodbourne Farms, Dimock, Pa.)

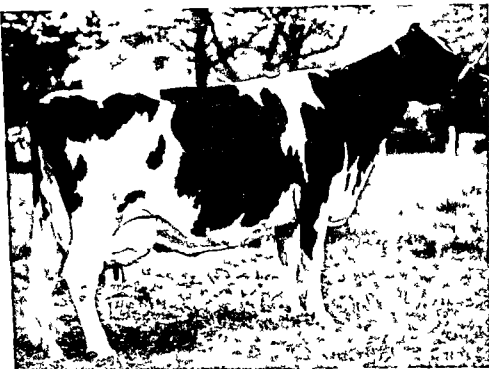


FIG 240 Cow shown in Fig 239, as she appears in working condition. Her great dairy character is a true indication of her productive capacity. She has a series of good records on 2X milking (21,179 lbs of milk, 3.9%, and 821 lbs of fat at 6 yrs 9 mo of age) (Courtesy Woodbourne Farms, Dimock, Pa.)

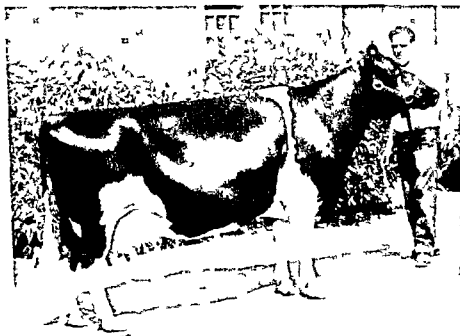


FIG 241 A 4 times All-American Holstein with a nearly perfect udder. However, her dairy character is not as pronounced as that of some of the other cows illustrated (Courtesy Lavacre Holstein Farm, Modesto, Calif.)



FIG 242 Superior dairy character is displayed by this national champion on 2X milking (35 564 lbs of milk 3.7% and 1319 lbs of fat at 6 yrs 11 mo) (Courtesy Archie Meek, Norwich N Y)

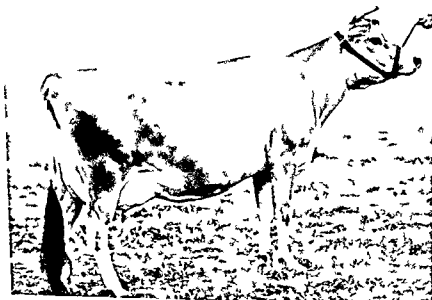


FIG 243 The outstanding dairy character displayed by this young Jersey cow is indicative of her productive powers. As a senior 2 year-old she produced 17 496 pounds of milk with 829 pounds of fat. This is nearly 21 times her body weight in milk during one year. (Courtesy Marlu Farm, Lincroft, N J)



FIG. 244. This Jersey worked so hard to accomplish her outstanding production that she milked off a great deal of weight. Although very spare in body form, especially from the rear view, she had enough strength to win reserve grand champion at the national show (Courtesy Ideal Farms, Vestal, N. Y.)

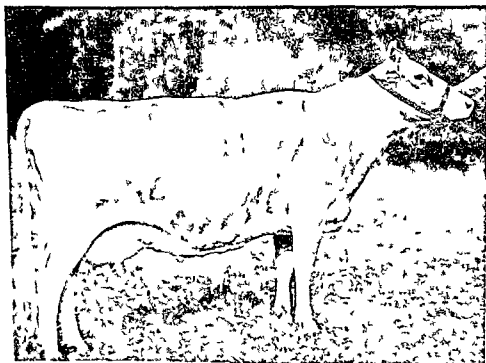


FIG 245. This show-cow displays great dairy character even though she is dry. She won reserve senior and grand champion female at the national show. (Courtesy McDonald Farms, Cortland, N. Y.)



FIG 246 In contrast to the cow shown in Fig 245, this animal takes on considerable weight during the dry period. She can be criticized for lack of dairy character, and the weight of nearly 1700 pounds is a heavy load on the bones of her legs

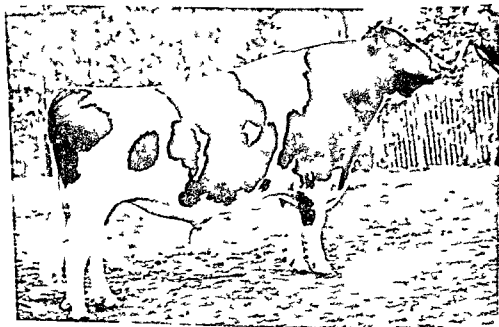


FIG 247 Bulls, like cows, can excel in dairy character, as demonstrated by this sire. Due allowance is made for masculine development

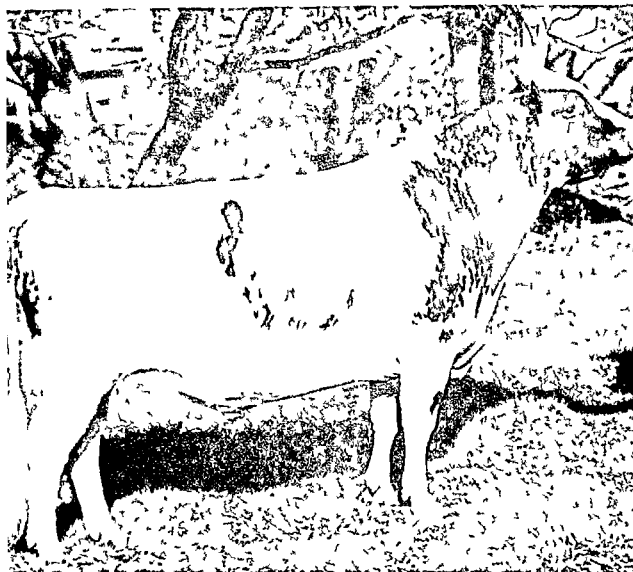


FIG 248 Ayrshire bull of outstanding dairy character, as indicated by his open body conformation throughout. He transmitted this characteristic and high production capabilities to his daughters. (Courtesy Harold E. Nock, Snow Hill, Md.)

General Appearance

GENERAL appearance should logically be withheld from discussion until all the individual parts have been described. The reader can then evaluate the assembly of the various parts as a whole. A total of 30 points is allotted to general appearance on the score card for cows and 45 for bulls. Feet and legs are included under general appearance for both sexes, but are allotted more points for the bull. In addition, the points listed under general appearance include breed characteristic, head, shoulder blades, back, loin, and rump, with subpoints for hips, thurls, pin bones, tail head, and tail.

General appearance, in broad terms, is listed on the score card as an attractive individuality, revealing vigor, femininity (masculinity), with a harmonious blending and correlation of parts, impressive style, and attractive carriage with a graceful walk. A top score in general appearance also requires perfect skeletal structure, built for smooth wear and covered with strong, smooth muscles—the whole reflecting outstanding general health. When these qualities are combined with specific breed character, which is assigned 10 and 15 points on the cow and bull score card respectively, one can get a general idea of how the various parts of an animal should fit together. The flexibility allowed for each breed under general appearance has made it possible for the unified score card to be successful and universally accepted.

Proper constitution and size for the breed, with style, symmetry, and balance, including an impressive carriage, all contribute to a superior general appearance. Cows should be representative of the breed, display signs of productive capacity, and show strength together with refinement and dairy character. Bulls should have the same superior characteristics, except for a heavier, stronger frame.

Substance and strength refer to the general frame and size of the bone

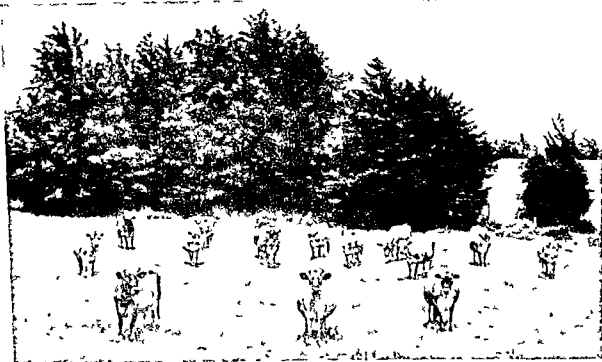


FIG. 249. Uniformly good general appearance adds beauty to a herd and encourages a good livestock man to strive for still better care and management. (Courtesy American Jersey Cattle Club, Columbus, Ohio)

of an individual. *Constitution* has a more limited meaning, specifically referring to chest and barrel development.

Style is indicative of physical fitness, and includes development, symmetry, and balance. A harmonious blending of all parts produces a unified structure displaying style and beauty, and is conducive to excellent health, high milk production, and a long life.

A judge should recognize a lack of symmetry or proportion of parts. If the general outline of an individual shows some parts to be too long or too large in proportion to others, it detracts from the style. All parts of the body should be considered, but the most important are. length of legs, shape and size of head, and neck conformation. Some judges use the terms *symmetry and balance* too much; it is much better to be specific in the description of various conditions.

The style and beauty of a cow, as she moves with grace and agility or stands in a characteristic pose to display her conformation to its best advantage, is a natural expression of her temperament and pattern of behavior, or, as some call it, her "personality." For many years this was considered to be more important in the show ring than in the dairy herd, but it has gradually come to be accepted that the style, symmetry, and temperament of a cow are related to sustained health and productive power, as well as to resistance to injury. In general, these qualities enable the cow to fit into a smoothly functioning, high producing dairy herd.

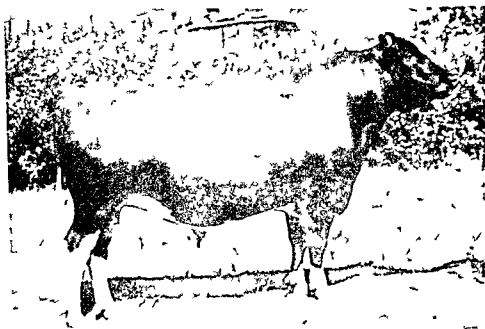


FIG 250 A winner of the Grand Champion award at the National Holstein Show Many spectators considered this All American bull to be the smoothest aged bull seen in the ring for ten years Note his attractive head, neck, and smooth shoulders, as well as his excellent conformation in general (Courtesy Forsgate Farm, Jamesburg, N J)

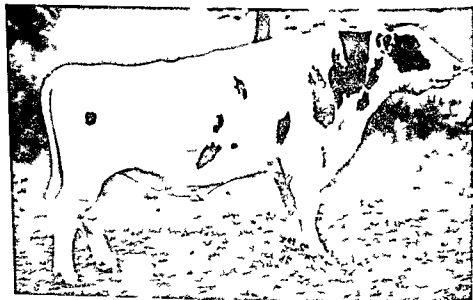


FIG 251 In contrast to the bull pictured in Fig 250 this animal lacks general smoothness and blending of parts He is plain headed, weak about the face has a receding forehead and is generally deficient in breed character

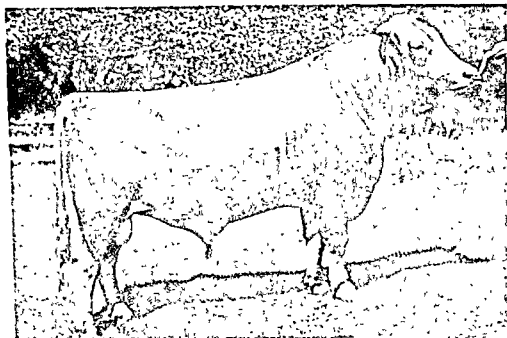


FIG. 252. A Brown Swiss bull with nearly perfect general appearance. His breed character and strength, refinement of head, symmetrical body, smooth shoulders, straight top, and good legs, all place him among the best of the breed. (Courtesy Walhalla Farms, Rexford, N. Y.)

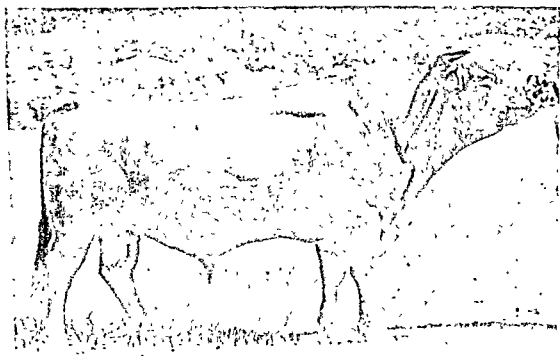


FIG. 253. This bull is intermediate in general appearance. Although the deep body is generally acceptable with this type, the parts do not blend, especially the shoulders, which are too rough, and the rump, which is too prominent at the tail head. He is not as stylish about the head and neck as the bull pictured in Fig. 252, but he is far superior to the one shown in Fig. 254.



FIG. 254. A bull very poor in general appearance and breed character. The head is especially bad, with pointed Roman nose and receding forehead.

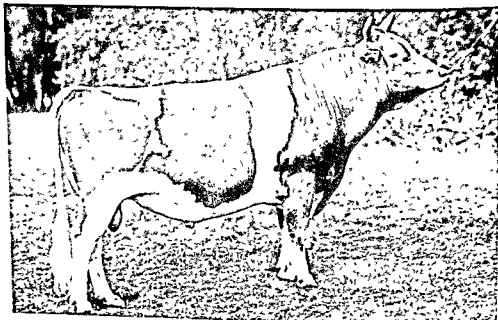


FIG. 255. A consistent winner of blue and purple ribbons, this All-American bull displays outstanding breed character and general appearance. His attractive head, smooth shoulders, and fine carriage give him excellent style. (Courtesy McDonald Farms, Cortland, N. Y.)



FIG. 256. This large, deep-bodied bull does not possess the quality, style, and smooth blending of parts demonstrated by the bull shown in Fig. 255.

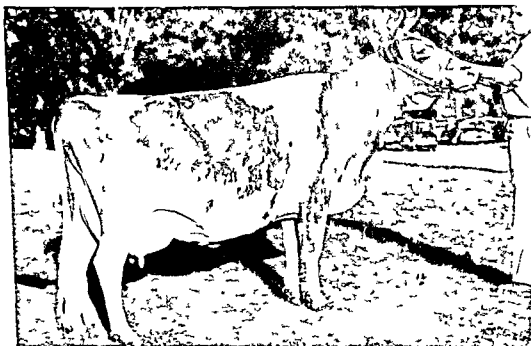


FIG. 257. The remarkable general appearance of this cow entitled her to four Excellent type classifications and many grand championships in the show ring, including two at the National Guernsey Show. Note the harmonious blending of all parts and the absence of all of the common flaws. (Courtesy Curtiss Candy Co., Cary, Ill.)



FIG 258 In contrast to the cow illustrated in Fig 257, this animal is very poor in general appearance. Note specifically the dissimilarity in head, shoulders and top line, especially the easy back, and the sharp contrast between the sickle legs and the easy pasterns and long feet.

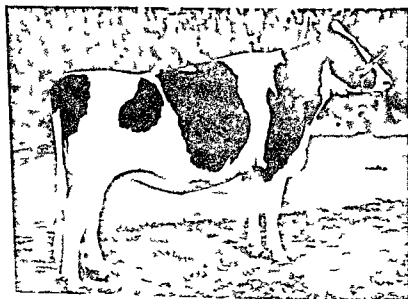


FIG 259 A Holstein senior yearling somewhat weak in general appearance about the head and neck. However, she is so outstanding in shoulder, depth of body, top line, especially in a long flat level rump, and admirable legs, that the author selected her to head a class of outstanding heifers at the international show. At a later date she was selected All American. (Courtesy, Carnation Farms, Seattle, Wash.)

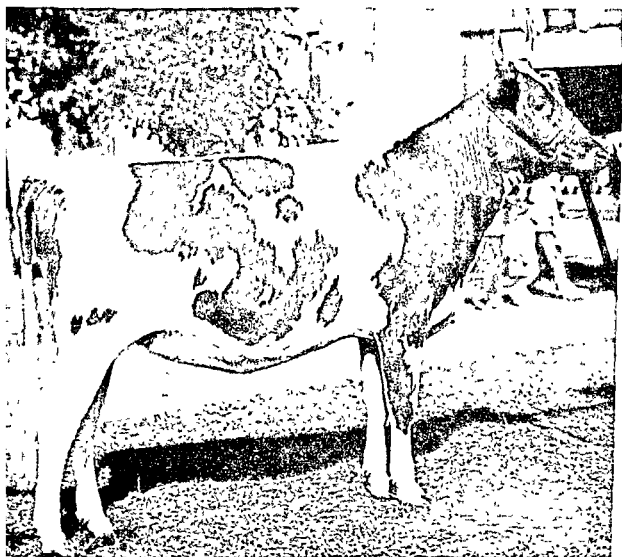


FIG. 260. An Ayrshire junior yearling heifer with a nearly perfect front end. Her style and the breed character shown in her attractive head, smooth shoulders, and long refined neck, carried her to the top, or close to the top, at all shows where she was exhibited. (Courtesy Strathglass Farms, Port Chester, N. Y.)

14

Reasons for Placing of Classes

A good judge must have not only a thorough knowledge of the ideal type, but also the ability to give effective and accurate reasons for his placings. Only when he has developed this ability can he teach others how to judge. At a show he can be very convincing and constructive with a few concise, well organized remarks about the placing of a class.

In a previous chapter it was stated that judging involves keen powers of observation, and the ability to retain what one sees, in order to make a sound decision and a satisfactory judgment. By the time a judge reaches his final decision, he should also be well fortified with reasons to justify his placings.

The ability to give a well organized set of oral or written reasons is extremely important. The exhibitors at a show and the students interested in judging are usually satisfied after they hear logical reasons for the placings and know that the points of conformation have been accurately observed by the official. Some placings may be controversial. However, most people realize that in matters of judgment there are bound to be some disagreements and no one doubts the honesty of the decisions. Frequently the judges of the Supreme Court do not agree, and render a split decision. Sometimes there is so much difference in their viewpoints that a minority report is requested. If a dairy cattle judge has to defend a minority decision on placings with which the ringside does not agree, there is usually considerably more general satisfaction after he has explained the class and has given good reasons for his placings.

The final placing of a class should depend on observing, comparing, and evaluating differences between the various cows. 'Manufacturing' reasons to justify an erroneous or haphazard placing is a decided mistake. Most students, and even experienced judges, find it difficult to give

satisfactory reasons until they have had considerable training or experience. However, once the mind has been trained to absorb and retain a mental image of the bad and the good points of many cows, and has developed the vocabulary to state these accurately, concisely, and effectively, it becomes a pleasure to include reasons with judging.

RECOMMENDED METHOD OF RECORDING REASONS

A judge at a show cannot take written notes; he must do this mentally. Students in competitive judging are often required to give reasons for placing classes several hours after they have placed a number of different classes. Under such circumstances, it is a distinct advantage for the student to take notes that will help him remember each animal in all classes.

Usually each student has his own system of recording his observations in the shortest time possible. Many of them use symbols similar to those in shorthand. Good and bad points should be noted, including such features as color, a high tail setting, crooked legs, weak pasterns, deficient heart, outstanding dairy character, unusually good udder, a nearly perfect rump, great style and character about the head, and a number of others.

Although many different systems are used to record and organize reasons for placing a particular class, one of the most useful methods is to record a brief description of each animal. As this is done, the placing of the individuals in the class is often clearly indicated, and then specific points of advantage and points that have to be granted in making the placing can be recorded.

The first requirement of a good set of reasons is accuracy. Every single characteristic of the animal must be correctly evaluated, individually and in comparison with the others in the class. Correctness of emphasis is next in importance. Then, definite and accurate statements should be made on the points of superiority. Only those that are definite should be listed. A good judge prefers to have the points of major differences listed first rather than to take the points for discussion in a set order. Minor differences or differences in characteristics of minor importance are considered next. Points for which the advantages are so slight that they may be questionable should be omitted entirely. A good judge always lists the points of the second-ranking animal which are superior to those of the winner, especially in close placings, since it indicates that the points were accurately observed but were evaluated or weighted differently.

Accuracy in reasons for the placing is so important that the beginner should not attempt reasons until he has attained some proficiency in

recognizing and evaluating the ideal type. Otherwise he may develop the habit of giving reasons that lack precision. A good set of reasons should fit a particular class so well that they will distinguish it from a hundred other classes.

Reasons that are specific have a great advantage over those that are general. For example, to say that one cow excels the other in body capacity is too general. The points of difference may include length, depth, spring of rib, or many other features of conformation. However, to say that one cow has a definite advantage in spring of rib, and also a great advantage in depth as indicated by length of fore and rear rib, and then to point out that the other cow has a very short rib and shallow body, describes these characteristics so vividly that the listeners obtain a sharp impression of these differences and their evaluation.

The use of appropriate terms, as discussed in Chapter 2, is very important. The vocabulary should be broad enough to avoid monotonous

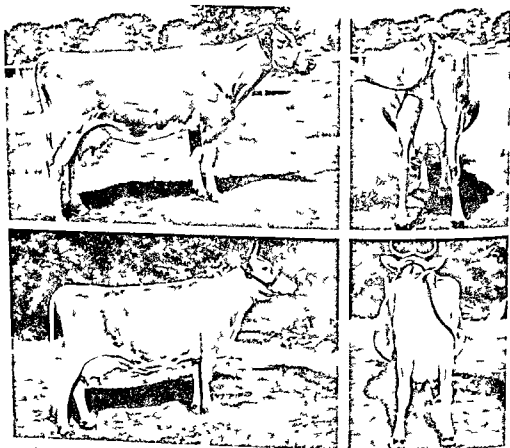


FIG 261 Class of aged Guernsey Cows (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)

repetition of the same words or phrases and too much use of such words as good, better, and best

Decisive descriptive terms, such as extremely impressive, nearly perfect, full of quality, true dairy type, a deep bodied cow with plenty of substance combined with refinement, outstanding balance throughout, with a fine udder, and approaching the ideal, are so favorable in their impression that they will be well received. To these can be added expressions frequently used by outstanding cow men, and terms fitting specific situations, such as "her udder was gaping in front," "an old cow carrying her years lightly," "a small cow a trifle too frail for the breed," "this class was strong indeed, with three possible winners, and not a bad one in the class," "a sweet dairy heifer full of quality," "too bold and strong," "the right kind of top line," "the wrong kind of a body," "very impressive on the move, but not good when she comes to rest." All of these are unique, fit a specific situation, and are so colorful that they have appeal and possess individuality.

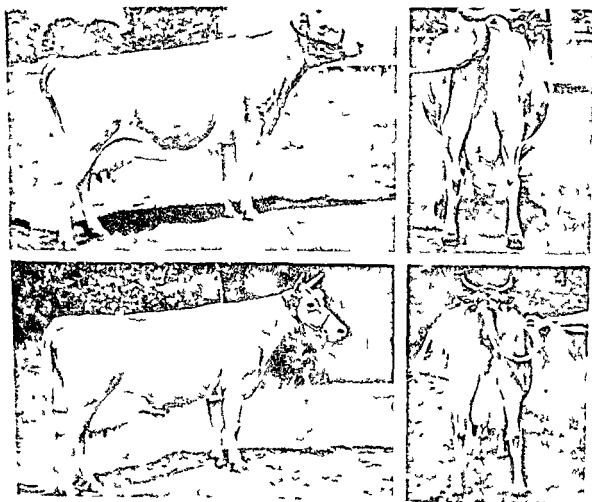


FIG 261 (con't) Class of aged Guernsey cows. (Courtesy American Guernsey Cattle Club, Peterborough, N. H.)

EXAMPLES OF REASONS

To give a concrete illustration for taking notes and developing a set of reasons, four cows in a Guernsey class of aged cows, Fig 261 on pages 194 and 195 are used

The first step is to write a brief description of each cow as the class is viewed. The descriptions might read somewhat like this

No 1 Smallest cow in class

Prominent and rough at point of shoulder

Shallow body, especially deficient heart behind the forearm. Least depth of any cow in class

Strong straight loin, good top but prominent tail head and low pins

Poorest udder in class. Short fore, quartered and tilted. Pinched poorly attached rear

Excellent legs. Hornless but stub horn on right side

No 2 Outstanding and attractive in type throughout

Outstanding personality. Excellent Guernsey breed and dairy character

Sharp refined body with open and deepest ribs in class

Udder attachments shape, quality, and body veining best in class

Nearly perfect rear udder attachment

Strong flat leg bone with proper set

Slight dip in loin but long flat level rump easily best of group

Most white in rear part of body

No 3 Strong cow, lacking in dairy refinement especially about head, neck, shoulders and rump

Prominent tailhead wry to right

Weakest rear leg in class

Poorly attached rear udder hangs too far forward

Excellent spring of rib

Wide band of white from withers to forearm

No 4 Largest udder in class. Good attachments. Light on left side of udder

Deep body. Very good head but bold neck

Trifle awkward on her hind legs

Strong chine, slight wave in loin. small niche in rump. most prominent and coarsest tail head in class. Patchy at pins but level from hip to pins

USE OF SYMBOLS AND ABBREVIATIONS

Much time can be saved by the use of symbols and abbreviations in taking notes. Usually each individual has his own particular system.

Suggestions for abbreviated notes on Cows No 1 and No 2 above are as follows

Cow No 1 Sma st of 4 prom & rgh pt sh shal body def hrt esp ← f arm < dpt in cl strg st ln gd top prom t.h ↓ pins pst ud in cl short fore ct up & ttd ud V rear ud ex leg no h stb r s.

Cow No. 2. Outst & attr type, gr pers—ex g br & d ch, shrp & ref body—open & dpst in class, ud att, sh, q, and body v > in class, nr prf r att ud, str fl leg b—prop set, sl dp in 1n but 1, fl rmp > in class, >wh in rear pt of bd.

POINTS OF COMPARATIVE ADVANTAGE

After the preliminary notes have been taken, the correct placing is usually evident and the points of comparative advantage can be listed. These are most useful for giving accurate and effective reasons to justify the placing. To save time, symbols and abbreviations can again be employed. However, for clarity to the reader, the following advantages for the placing 2-4-3-1 are given in detail without abbreviation.

- 2 Size, dairy and breed character, depth of fore and rear rib, openness of rib, flatness and fullness of rump, especially refinement at tail head and levelness on top. Great advantage in width, height, and strength of rear udder attachment. Balance and quality of udder. Superior body veining, and set to legs. Sharpness, clean cutness and refinement throughout. Grant strength and balance of head, especially shape of nose and forehead, cleaner under the throat, size of udder.
- 4 Great advantage in udder attachments and teat placing from side view. More capacious udder. Breed character and refinement about the head. Levelness and fullness from hip to pins. Slight advantage on set to legs and sharpness of withers. Grant strength of top especially loin, depth of heart and smoothness at point of shoulder.
- 3 Size, strength, and depth throughout, spring of rib, smoothness of shoulder.
- 1 Length and smoothness of fore udder attachment. Fullness of fore udder and levelness of udder floor. Grant great advantage on strength of hind legs. Dairy and breed character of head, and refinement of neck. Sharpness of withers and dairy character throughout.

COMPLETE SET OF REASONS

From the two sets of notes previously described in this chapter, it is now possible to make up a set of reasons that specifically fit this class and every individual in the class. In preparing the following set of reasons, the writer used the same procedure used by Cornell students who placed first for three consecutive years, and first and second high for two years, for oral reasons at the National Intercollegiate Judging Contest at the Dairy Cattle Congress in Waterloo, Iowa. Since about 100 outstanding college students compete in this contest, and the reasons are taken by five of the best dairy cattle judges in the country, this is a critical test for effective reasons.

The following organization of reasons is usually practiced orally by

continuous repetition, until they can be given fluently and with extreme precision. The recommended procedure follows.

In placing this class of aged Guernsey cows 2-4 § 1. I find an easy top in 2 a definite bottom place in 1 and an easy placing between 4 and 3. The large deep bodied open ribbed No. 2 cow stands out in this class. Her sharpness, refinement and outstanding dairy and breed character, combined with the best udder and rump in the class make her an ideal top.

Cow 2 easily places over 4 because she has a great advantage in depth of fore and rear rib and in openness of rib. She is far superior in dairy character as indicated by refinement about the neck, sharpness of withers and hooks and especially in cleanness about the pins. Cow 4 is criticized severely for patchiness over the pins. Cow 2 also excels 4 on mammary system especially in her great advantage in width, height and strength of rear attachment and also in balance of udder since 4 is unbalanced and light on the left side. Although 4 must be granted an advantage for having a more capacious udder, the fore udder on 2 is smoother and stronger in attachment. Cow 2 also has quality of udder and is superior in body veining; she is remarkable in this respect.

On the top line both cows are strong in the chine, a trifle easy in the loin but 2 is much superior over the rump. She is much fuller over the rump and much wider at the pins; she also has levelness from hips to pins and is much more refined about the tail head in marked contrast to the prominent tail head of 4 and the slight niche on the top of the rump which gives 2 considerable advantage in the pelvic region. Cow 2 has the second best legs in the class and has an advantage in set of hock and strength of pasterns over 4.

In addition to capacity of udder previously granted, it should be mentioned that 4 must be granted an advantage in balance of head especially in shape of nose and forehead in which 4 is outstanding. Cow 2 is somewhat plain about the nose and a trifle receding in the forehead. Cow 4 is also cleaner under the throat.

Cow 4 places easily over Cow 3. She has a decided advantage in her more capacious udder which is much longer and stronger in fore udder attachment. From the side view the teat placing on 4 is much preferred since the fore and rear teat spacing is much wider and the rear teats do not point forward as they do on 3. Both cows lack good rear attachments but 4 has an advantage. Although both cows are somewhat bold in their neck, 4 has a decided advantage in breed character and dairy refinement about the head. Cow 4 is the best in the class on head but 3 is short and heavy headed and lacks refinement. Both cows are faulty in their hind legs but 4 has a slight advantage through the hocks and stands on a stronger bone especially about the pasterns. Cow 4 has levelness and fullness of rump. Cow 3 falls away on the side of the rump with low and narrow pin bones. Both cows are prominent at the tail head but 3 is also wry to the right.

In making the placing 3 must be granted an advantage over 4 in spring of rib, depth of heart, smoothness at the point of the shoulder and strength of top especially through the loin, also in balance of udder since 4 is light on the left side.

Cow 3 places over Cow 1, who is a definite bottom because of her inferior udder, but each cow has a number of points of advantage. Cow 3 has a great advantage in size and strength of body, as indicated by spring of rib, depth of fore and rear rib. Although the fore udder on 3 is far from ideal, it has a great advantage over the short, quartered and deficient fore udder on 1, which makes 3 superior in levelness of udder floor and fore attachment.

Cow 3 also has a smoother and more firmly attached shoulder, but 1 must be granted sharpness of withers, dairy character, refinement, and angularity throughout. These advantages are especially evident about the head and neck, in which 3 is coarse. Since 1 has an excellent set of legs, which are the best in the class, she must be granted a decided advantage on this point in which 3 is the poorest in the class. Cow 3 is awkward on her legs, is slightly sickle in shape of hock, and has long weak pasterns.

Cow 1 places at the bottom of the class, primarily because her inferior udder is the poorest in the class. She is the smallest cow with the least depth, and is the roughest at the point of the shoulder. However, she stands on the best set of legs in the class and is sharp, angular, and refined, with considerable dairy character throughout.

PRESENTATION OF REASONS

The organization of reasons should follow some definite pattern, but individuality of expression should not be sacrificed. If the reasons become stereotyped or monotonous, the term "canned" might well be applied to them.

Reasons should be comparative in nature, with a minimum of description, except in special situations. Monotonous repetition of terms and expressions should be avoided, especially the word "better." Such terms as deeper, wider, stronger, or larger are much more expressive than "better" in giving one feature an advantage over another.

It is essential that reasons be clear. Conciseness is very important, especially when a few short, accurate statements will handle the situation adequately. However, if condensed too much, reasons are incomplete and inadequate. The use of complete sentences, good grammar, and accepted terminology is indispensable to an excellent set of reasons. When combined with accuracy, a persuasive set of reasons, spoken in a pleasant, convincing, conversational manner, will attract attention and result in a favorable impression.

Judging Dairy Cows

COMPARATIVE judging utilizes the procedures given in the previous chapters on parts of conformation. The judge should analyze each individual thoroughly and evaluate its merits and faults. He should make a mental record of these points, and then balance them according to the values assigned to the different parts of conformation. An accurate balance of points is necessary, when comparing individuals within a class, to determine the relative value of points for udders, bodies, dairy character, feet and legs, shoulders, top lines and general appearance.

Decisions should be prompt and sound. They are usually accurate and uniform if based on clearly defined and fixed ideals, especially if each animal is analyzed carefully before comparisons are made. So that no small detail is missed, the judge should make a careful study from a distance and close up while the animal is walking and standing. Prompt, clear decisions, supplemented by sound, concise reasons, are the basis of successful show ring judging.

Good judging emphasizes correlation of type and lifetime production for breed improvement. Judging of cows makes the greatest contribution in this direction because the emphasis is on udders, dairy quality, with recognition of production and wearing qualities, body development, feet and legs, and the other points of conformation previously listed. In cows these characteristics can be observed in the mature or nearly mature form.

To help illustrate comparative judging the following photographs show both good and poor conformation in cows as well as some cows of good type but with considerable differences in conformation. In view of the extensive discussion and illustrations of the different breeds in previous chapters, this chapter is limited to methods helpful in deciding whether an individual is good or poor in type.



FIG 262 Proper type of 2 year old Ayrshire cow She was selected Grand Champion at the national show on the basis of her perfect size combined with smoothness and great dairy character She is outstanding in Ayrshire breed character, and has smooth shoulders, strong straight top, a well attached working udder, which is exceptionally well veined, beautiful depth of fore and rear ribs, and good legs (Courtesy Chester O Unruh, Hutchinson, Kans)

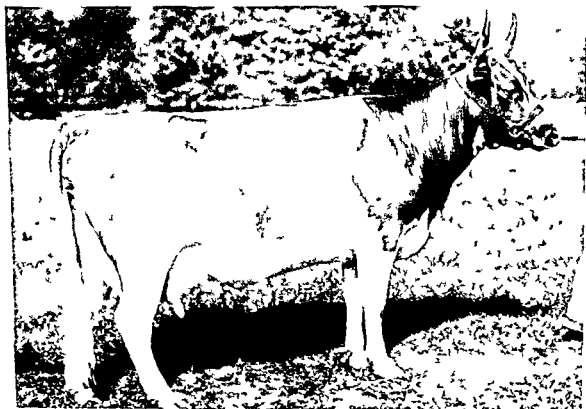


FIG 263 In contrast to the cow in Fig 262, this animal is of poor type She is too coarse, as indicated by the lack of breed character about the head and neck, the heavy coarse point of shoulder, and the lack of dairy quality throughout her body Note the closeness of ribbing, fleshy covering over the hips and pins, thickness of thighs, coarse sickle legs, and the lack of quality in her udder

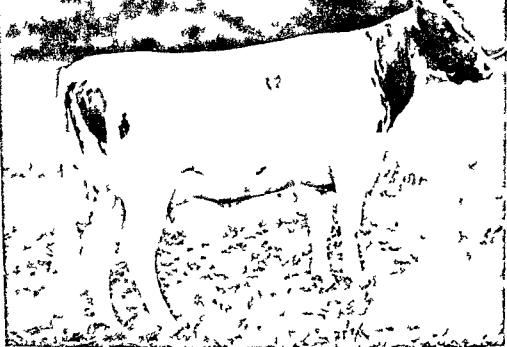


FIG 264 This young Ayrshire cow is entirely off type. She is round ribbed and lacks depth especially in the heart region. The dip in the loin, small udder, sickle legs and general lack of breed and dairy character all display weakness. She is plain throughout, but particularly at both ends, with lack of character and dairy refinement in her head and neck and plainness through the pelvic region.

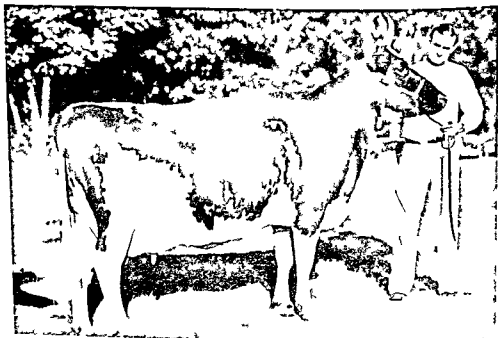


FIG 265 An excellent Ayrshire cow that was a consistent winner from calf to aged cow. Her conformation never varied with age and although she was exhibited at 30 shows the lowest she ever placed was fourth on one occasion. She was grand champion at 14 of these shows. (Courtesy Ayr Line Farm Hutchinson Kans.)



FIG. 266. Cows of good type usually produce good daughters. This senior yearling is a daughter of the cow shown in Fig. 265. She was first and junior champion at the top national and international shows. (Courtesy Ayr Line Farm, Hutchinson, Kans.)

FIG. 267. This cow displays great dairy and Brown Swiss breed character throughout her body. Her smooth, deep shoulders; open, flat, deep ribs; admirable legs with strong, flat, clean bones; well-attached symmetrical udder; and unusually good udder and body veining, all mark her as a high producer and an outstanding cow for type. This cow represents the third successive generation of grand champions at the National Brown Swiss show, an unusual accomplishment in breeding proper type within a family. (Courtesy Lee's Hill Farm, New Vernon, N. J.)



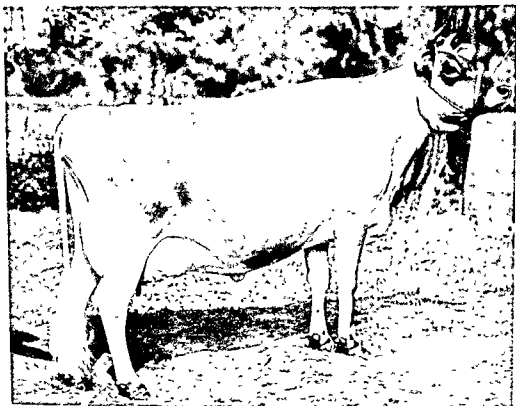


FIG. 268. The deep body, long flat rump, good udder, and strong Jersey refinement plus dairy quality, displayed by this grand champion and "best-uddered cow" at shows of national and international scope make her a good representative of the Jersey breed. (Courtesy Folly Farm, Simsbury, Conn.)

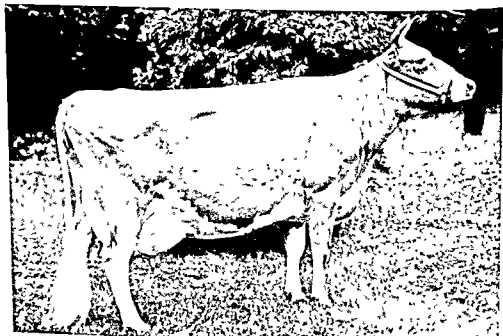


FIG. 269. This deep- and open-ribbed Guernsey cow, with great dairy quality and favorable size, sets a pattern for Guernsey type. She placed first and grand champion at the national Guernsey show. Compare her with the cows illustrated in Figs. 270-271, which followed her in the class. (Courtesy Curtiss Candy Co., Cary, Ill.)

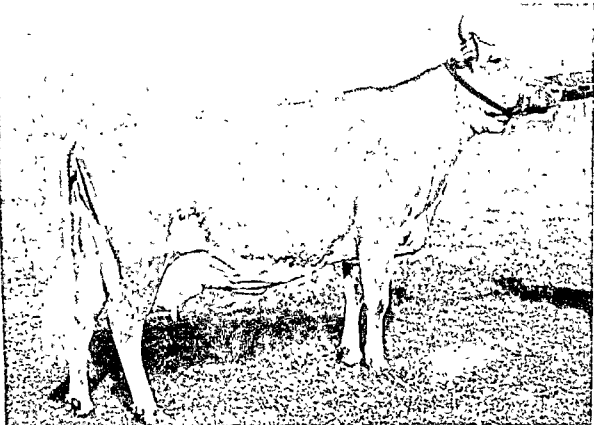


FIG. 270. A good cow with a remarkable flat rump that placed second to the cow shown in Fig. 269 and over the cow shown in Fig. 271. Note the differences in type characteristics between these three cows. (Courtesy McDonald Farms, Cortland, N. Y.)

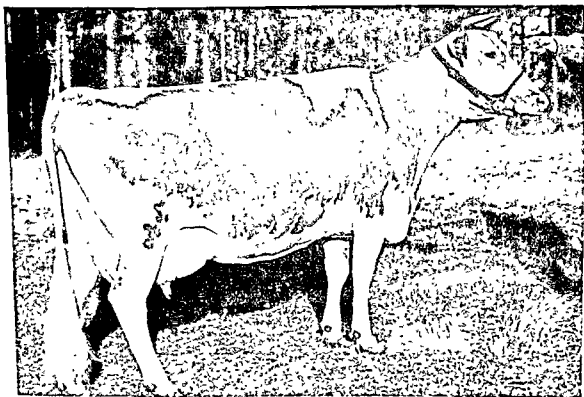


FIG. 271. This cow placed third at the national Guernsey show. She is different in type from either of the other two pictured in Figs. 269-270. She has unusually fine dairy character, but is not as large or strong, especially in general frame and bone in her legs, as the other two cows. Seldom can this much variation in type be tolerated, but it was justified in this class, and all three are good in type. (Courtesy Dinsmore Farm, Dinsmore, Fla.)



FIG 272 This famous, four time All American cow displays excellent wearing qualities in her strong frame. She won honorable mention All American at 13 years of age. She is outstanding, but somewhat different in type from the cow shown in the following figure. (Courtesy Dr Harold J Schmidt, Modesto, Calif.)

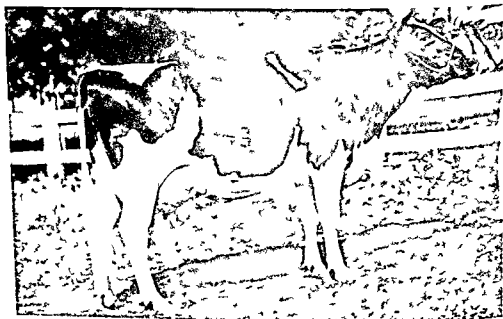


FIG 273 This two-time All American must concede strength to the cow shown in the preceding figure, but she excels in dairy character and openness of body conformation. She gave birth to six calves before she was 8 years of age (with 17,845 lbs of milk, 3.9% and 704 lbs of fat on 2X milking at 4 years, 11 months, she produced more than 100,000 lbs of milk during her first 7 lactations, all on 2X milking). She, like the cow pictured in Fig 272, demonstrated excellent wearing qualities to justify their awards. Only with unusually good type on all points of conformation can this much difference be justified in type selection. (Courtesy Warren Wigsten, Highline Farm, Pleasant Valley, N.Y.)

Evaluation of Dry Cows

It is always difficult to do justice to a dry cow in the show ring without taking too much of a chance. A judge must realize that in the average practical herd about twenty per cent of the cows are dry, and that even the prolific reproducer is dry two months of the year. Therefore, a dry cow in a dairy herd is a perfectly normal occurrence. However, in the past, enough mistakes have been made in selecting dry cows that it has gradually become the rule to prefer cows in milk.

Some judges compromise by giving due regard to dry cows with a previous show record, but this cannot be advocated because it conflicts with the philosophy of judging: taking the cows as they appear on the day of the show without regard to their previous appearance. In the light of this, dry cows should be properly evaluated, and placed in accordance with the judgment that can be arrived at from the information at hand.

Many breeders realize that a good cow of recent freshening has the most appeal, and purposely breed cows for freshening at the time of the shows. A judge should recognize this advantage for cows that have just freshened, or nearly so, and should feel certain that the animal actually is superior before giving her preference. He should recognize also that many cows have won when they were in full bloom and appealing to the eye over cows that were superior when both were at the same stage of lactation.

The easiest time to evaluate a cow accurately is at mid-lactation, but a good judge, in order to make valid comparisons, must be able to judge cows at all stages of lactation and to visualize how each one would look at mid-lactation. This does not contradict the statement made above about analyzing cows the way they appear on the day of the show. It does mean, though, that a judge should select as winners cows that will

be good 365 days of the year. He should not select the cow that is particularly good for two or three days only, but rather one whose appearance and qualities are outstanding during all stages of lactation throughout the year.

Although it is much easier to determine the udder conformation of a cow in full milk as compared with a dry cow, a judge has many reliable indications available to him for evaluating the type of udder on a dry cow. Some of the telltale signs for good and bad udders are illustrated in the photographs in this chapter. Wide, firm udder attachments (up high and well forward), texture and balance of udder, and teat placement can serve as guides to evaluate the completely collapsed udder on a dry cow. Actually, in many instances, a completely collapsed udder can be more accurately evaluated than one that is beginning to fill before freshening. For example, different qualities of tissue and texture are more easily detected in a dry blind quarter.

Dry cows should carry only a moderate amount of condition. Overconditioning is a serious fault. The higher condition natural to dry



FIG. 274. Dry udder on a Guernsey cow. The high, wide, and smooth rear udder attachment, the proper length of fore udder, terminating in a smooth, strong attachment to the body, together with the correct shape and level floor of udder, and properly placed teats mark this as an excellent dry udder. (Courtesy McDonald Farms, Cortland, N. Y.)

cows, especially over the back, should be recognized and should not be confused with thickness and beefiness, which show up more through the neck and thighs, indicating a lack of dairy quality. A careful study of the skeletal frame will reveal considerable information about openness and dairy quality on a dry cow.

With proper analysis and careful evaluation, a judge can do justice to good dry cows without taking undue chances. Dry cow classes can be advocated for the shows because they reveal much more accurate information about udder conformation than do heifer classes. This is only a partial solution, however, since the dry classes are sometimes dominated by springing cows that are "close up" and show a fully developed udder just before freshening. The following photographs of a dry collapsed udder as compared with a distended one on the same cow will help in proper evaluation of the dry udder. Photographs of the entire cow during the dry period demonstrate the normal and objectionable changes in body conformation due to condition during this period.





FIG 276 (A and B) Dry udder at the stage in which it is beginning to spring, compared with the fully extended udder of a famous show cow that won the Best udder Class at the national, international, and Royal shows in three different years. Note the similarity of form at the two stages (Courtesy Henry Bartel, Hastings, Minn.)

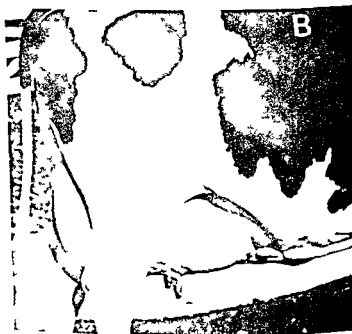




FIG. 277 (A and B). Dry, collapsed udder and udder in milk of same cow. A good udder, but the teats are too large. In each instance there is a slight discrimination for this condition.





FIG 278 (A and B) Acceptable dry udder (A) reveals same faults that can be observed in milking udder (B) of this Holstein cow. Both stages show a rear udder that hangs too far forward and a fore udder that lacks strength and smoothness of attachments.



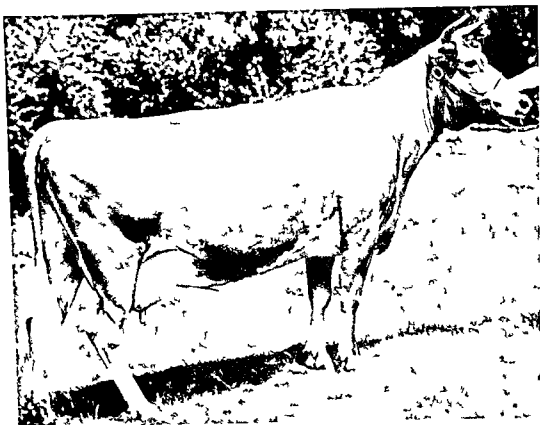


FIG 279 Dry udder showing lack in strength of attachments. Rear attachment is especially weak, which places the udder too far forward



FIG 280 Poorly attached dry udder, with teats placed too close together. The structure for upper region of teats is funnel shaped. The fore udder is entirely too short and loose in its attachment (a serious discrimination)



FIG 281 Dry udder with broken fore and rear attachment and funnel shaped teats that are too close together. The udder floor is poor (a serious discrimination)



FIG 282 Pendulous dry udder with broken fore and rear attachments. It is easy to visualize the ill shaped udder that will result when filled with tissue and milk (a serious discrimination equivalent to a disqualification)

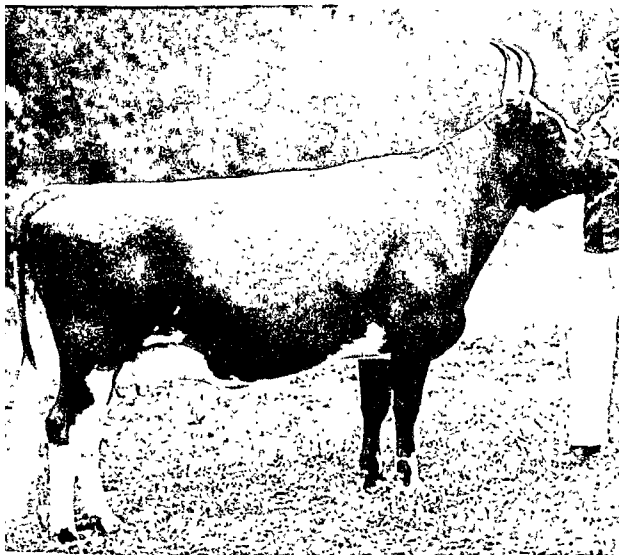


FIG. 283. Young, dry Ayrshire cow displaying outstanding dairy character, general appearance, and correct kind of dry udder. The smoothly attached fore udder and placement of teats are especially impressive. This cow, showing dry, consistently placed at top of 3-year-old class at four major shows. She carries the proper amount of condition, in contrast to the cow pictured in Fig. 284. (Courtesy Strathglass Farm, Port Chester, N. Y.)

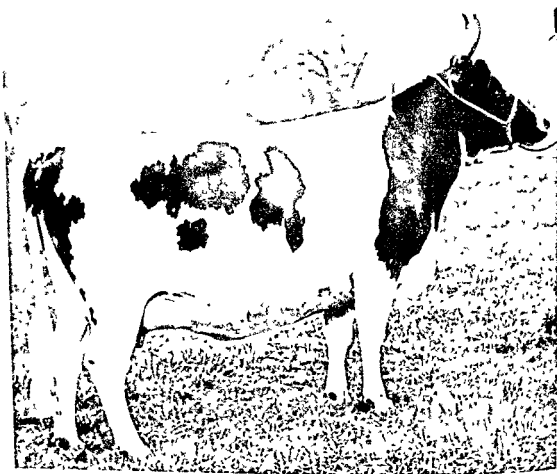


FIG. 284. Dry cow showing evidence of good type, but she must be seriously criticized for overcondition during dry period. This is indicated in heaviness around the head, in extra fleshing of the neck and brisket, and in lack of sharpness due to excess fleshing throughout her conformation (a serious discrimination). Excess condition, such as this, often spells trouble and sickness at calving time. Although a cow may sometimes be dry for a long time, she can be kept in good condition by carefully controlled feeding.

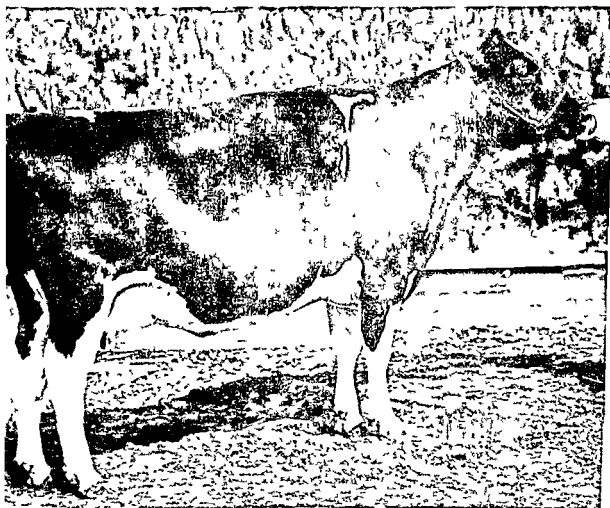


FIG. 285. Dry cow of outstanding type, with proper amount of body fleshing for dry period. An animal in this condition carries ample reserve for high production, without excessive fat and body fleshing to cause undue strain on endocrine glands and body system at the time of calving. The dry udder displayed by this cow shows every indication of possessing correct conformation when filled with milk. The folds in the rear udder usually indicate outstanding quality and good attachments. This cow was photographed when she placed Grand Champion in the junior show and eighth in a strong open class at the International Dairy Show. (Courtesy A. C. Thompson, Elgin, Ill.)

Judging Dairy Bulls

THE primary purpose of a dairy bull is to produce the right kind of daughters. Before he is put into service, however, he must attract enough attention to be selected and retained as a herd sire. Below are listed three of the most important requirements that a future herd sire must possess

1. An unusually fine pedigree, indicating ancestral superiority.
2. A particularly attractive body conformation, marking him as outstanding in type
3. A promise of unusual powers of transmitting qualities of high productivity and durability to his daughters

Point three above is the most important, and, in the final analysis, determines the value of the contribution a sire will make toward herd and breed improvement. High production is essential from an economical standpoint, and good type in the daughters of a bull is necessary to take full advantage of high production over a period of years. In addition to adding appeal and popularity to a bull, the first two points will also greatly increase the odds for success with point three.

It must be admitted that some bulls of inferior type transmit good type to the daughters, and, conversely, that some of good type produce inferior daughters. However, the odds are in favor of a good type bull having daughters of good type. A herd sire with weaknesses such as poor legs, shallow body, bad top line, or weak constitution will usually pass these on to his daughters.

There should be little argument on the fact that good character, a strong and straight top with a flat rump, deep ribbing for body capacity, smooth shoulders, good legs, dairy refinement, and openness of body conformation, a strong vigorous frame, breed character, with symmetry and balance throughout in the body conformation, are all inherited from

the sire and dam, and can be observed in both. The mammary system, or udder, although inherited through both sire and dam, must be studied through the sire's daughters, the grandsire's daughters, a sire's dam and granddam, as well as maternal sisters and brothers and their progeny. Official type classification can provide this information and will be discussed in a later chapter.

The individual type characteristics previously considered apply to bulls in the same manner that they apply to cows except that bulls should have masculinity and more strength, especially in the head, neck, and shoulders. The allotment of points on the bull score card are: general appearance 45, dairy character 30, and body capacity 25.

To illustrate good and poor conformation in a bull, a series of photographs are presented in this chapter. In addition, a complete set of reasons is given for placings in a class of four bulls. It will be evident that the emphasis is on useful type characteristics of strength and dairy character with openness of body conformation that can be expected to be transmitted to the bulls' daughters and greatly add to their usefulness as dairy cows.

REASONS ON AYRSHIRE BULL CLASS

In reaching a decision to place this Ayrshire bull class 1-2-3-4, it is recognized that the class is immediately divided into 2 pairs, with the closest placing between the bottom pair. Although both 1 and 2 are outstanding in type, bull 1 places over 2 because he is longer and more open-ribbed, with considerable advantage in dairy character throughout his conformation. Both bulls have good heads, but 1 shows more refinement, with strength, breediness, and Ayrshire character. He is also longer in the neck, sharper at the withers, and much smoother in the shoulders, especially at the point, where 2 must be criticized for coarseness.

Both of these fine bulls have remarkable strength of back but 1 has considerable advantage in length from hips to pins and in levelness of rump because the pins are up higher. Bull 1 also has much more refinement about the tail head; 2 has a too prominent tail head, lacking in smoothness.

Each of these bulls has a good set of legs, with not enough difference to cite an advantage. But in making this placing, bull 2 must be granted an advantage in depth of body, especially in the region of the heart.

Bull 2 has an obvious advantage over 3, this is the easiest placing in the entire class. His superiority in size, strength, depth of body, and his stronger frame as indicated by the strong, sturdy bone in his legs, gives him a definite lead that 3 cannot overcome.

Although 3 must be granted dairy character about the head, 2 has an

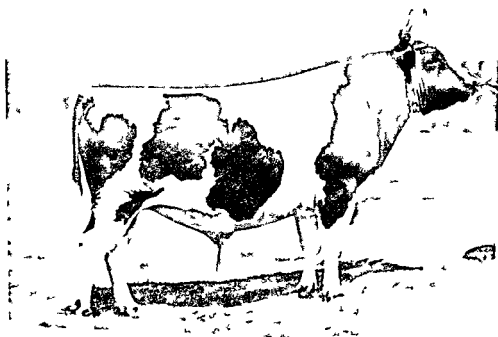


FIG 286 A class of four Ayrshire bulls with a suggested placing



advantage here because he shows so much more strength and power, especially more depth and strength at the angle of the jaw. He also is much more masculine, particularly about the face, and has considerable advantage in width, depth, and strength of muzzle. Bull 2 also displays more depth and strength of forehead. Bull 3 must be granted an advantage in length and dairy refinement of neck, and 2 can be criticized for slight shortness of neck and a coarse shoulder. Here, 3 has a slight advantage, even though he lacks depth and strength of shoulder.

The great depth of fore and rear rib of bull 2 give him a tremendous advantage, especially since 3 is somewhat shallow of body. In giving 2 this clear-cut advantage in body, attention is called to the great difference that exists in depth of heart and flank.

Although both bulls are good on top, 2 has a stronger back than 3, but 3 must be granted an advantage in refinement about the tail head. It is very evident that 2 has a much stronger and larger frame, with a particular advantage in strength of leg bones. Bull 2 has strong flat leg bones, whereas 3 is light boned almost to the extent of being frail; 3 especially lacks strength of thigh.

Finally, bull 3 must be granted an advantage in dairy character because he is sharper throughout, as indicated at the withers, point of shoulder, prominence of hooks, and a longer refined neck.

Bull 3 is taken over 4 on the closest placing in the class because he is smoother and better blended throughout. He also has much more style about the head, neck, and shoulders. In contrast, 4 is rather plain and common about the head, and out of proportion in his crest and shape of neck. Bull 3 has a distinct advantage in sharpness at the withers and smoothness through the shoulder, especially at the point of shoulder, where 4 must be severely criticized for being prominent and coarse as well as lacking firmness of attachment.

When a comparison is made for the pelvic region on 3 and 4, bull 3 is found to be longer in the rump and more level from hip to pins; 4 drops away in the rump because of low pins. Bull 3 also has a distinct advantage in smoothness about the tail head, where 4 is flat and coarse.

Both 3 and 4 are somewhat faulty in the hind legs, especially in set of hock, but 4 has stronger leg bones. In making this placing, it is recognized that 4 is a larger bull and must be granted a marked advantage in depth of body, especially of fore rib. He also has a stronger frame, and again 3 must be severely criticized for being light in this respect.



FIG. 287. Good Ayrshire bull that transmits his good type, as indicated by his son, a show-ring winner, shown in Fig. 288. (Courtesy Strathglass Farm, Port Chester, N. Y.)

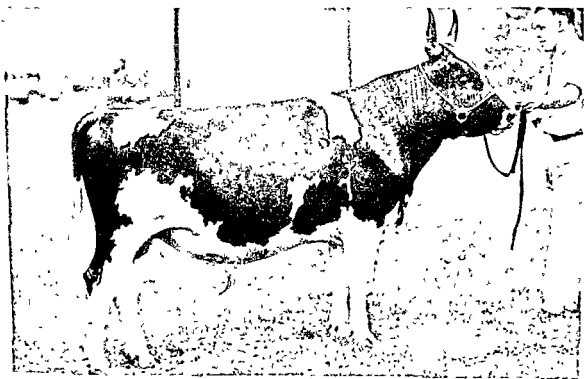


FIG. 288. This prize-winning yearling sired the winning junior get-of-sire, shown in Fig. 323, Chap. 19. (Courtesy Lippitt Farm, Hope, R. I.)

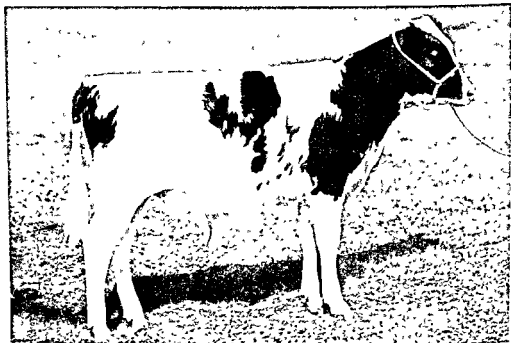


FIG. 289. This Ayrshire bull calf might, at first glance, appear outstanding in type. A careful judge, however, would find that he carries too much weight in front. This is more pronounced in the mature form, as indicated in Fig. 290.



FIG. 290. The fault of carrying too much weight in the fore part of the body is much more evident in the mature bull than in the calf, pictured in Fig. 289.



FIG 291 The balance, smoothness, depth of body, and excellent Ayrshire character throughout in this calf is reflected in the prize winning bull shown in Fig 292 (Courtesy Strathglass Farm, Port Chester, N Y)

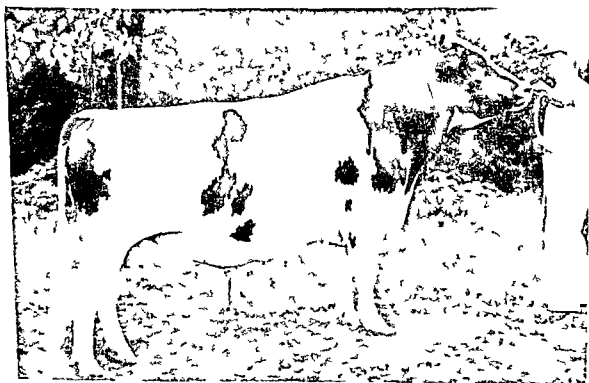


FIG 292 A keen observer could identify or predict the characteristics of this good Ayrshire bull from those shown by the calf in Fig 291 (Courtesy Lippitt Farm, Hope, R I)



FIG 293 This Holstein bull winner of the Grand Championship at the national displays outstanding breed character, size style smoothness and blending of parts (Courtesy Pabst Farms Oconomowoc Wis)



FIG 294 This strong deep bodied Guernsey bull carries superb Guernsey character and proper refinement with his large size He is particularly pleasing in breed character strength and refinement of head in straightness of top line levelness of rump and depth of body starting with depth of smooth shoulder and terminating with a deep flank



FIG. 295. Smooth Brown Swiss bull that classified Excellent in all divisions and won many grand championships at state fairs and at national and international shows. Much of his strength lies in lack of any weak points and in uniform excellence of all parts of conformation. (Courtesy Old Home Farm, Minister, Ohio)



FIG. 296. Senior yearling Brown Swiss bull that reflects many of the characteristics portrayed by the Excellent mature bull shown in Fig 297. The slight dip in the loin, the slight deficiency behind the forearm, and the awkwardness of the hind legs can be expected in a growing young bull (Courtesy Benedale Farm, Lisle, Ill)



FIG. 297. The same bull as in Fig. 296. In the mature form this bull is outstanding, and was officially classified Excellent. Note his Swiss character, straight top, fine depth, and good legs. (Courtesy Benedale Farm, Lisle, Ill.)

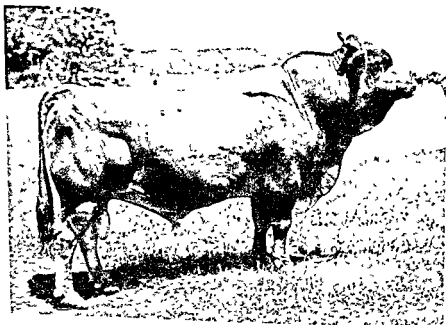


FIG. 298. This bull lacks Swiss character and smoothness. He is throaty, with excessive dewlap. He is coarse about the shoulders, rough in the pelvic region, especially about the tail head, and has awkward hind legs, which show some weakness about the pasterns and lack of depth at the heel of the hoof.

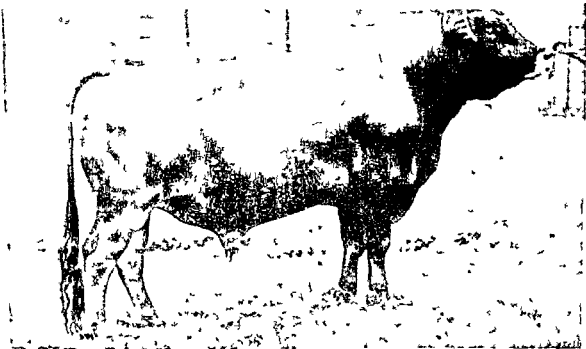


FIG. 299. The smoothness and refinement of this Brown Swiss bull are so extreme that he is too frail, with too little substance for the breed. Although he possesses remarkable dairy character he is intermediate between the Brown Swiss type shown in Fig 297 and the Jersey type in Fig. 300. This lack of Brown Swiss substance and type must be properly evaluated and criticized in the show ring.

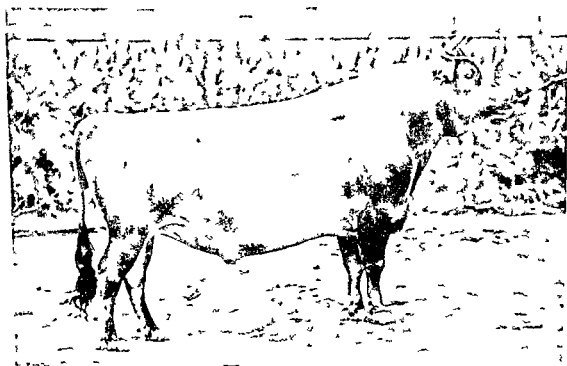


FIG 300 An outstanding Jersey bull with many fine characteristics of the breed. He was a popular winner on the show circuit from a calf to a mature bull, won many grand championships at leading shows, including the National Dairy Cattle Congress at Waterloo, Iowa, on two successive years, and also at Waterloo and the Chicago International on successive weeks. Note the combination of Jersey character and strength plus balance and symmetry throughout his body. (Courtesy Chester Folck & Sons, Springfield, Ohio)

Judging Dairy Heifers

MANY selections are made from young animals and a proper knowledge of the factors to consider for type characteristics at an early age can have a great deal of influence on the results obtained. For immature animals the indications of type that receive major emphasis should be limited to those points that determine whether the individual will ultimately develop into a cow with outstanding performance over a period of years or into one with very limited capacities. During recent years considerable progress has been made toward more successful selections of heifers both in the show ring and on the farm.

Considerable study and experience are required before it is possible to select heifers successfully. Conformation changes take place as the animal matures and these must be recognized and observed to attain proficiency in heifer selections. It is now generally agreed that the sleek round bodied calf or heifer does not have the odds in her favor for a good future. Such individuals will usually mature early and have insufficient stretch and frame structure to develop into a good dairy cow with the recommended scale dairy quality and roughage handling capacity. A trim clean cut growthy deep open ribbed heifer with smooth shoulder straight top good legs proper dairy refinement and outstanding breed character usually develops into an outstanding dairy cow. Since proper conformation for all these type characteristics has already been discussed it is not repeated here.

A clean-cut angular heifer that is sharp and open throughout the body indicating outstanding dairy quality is much preferred to the short and compact individual which exhibits too much fleshing and beefiness. An extremely fleshy animal is usually overfitted with a corresponding loss of quality and refinement and must be given serious dis

crimination because this kind of heifer generally has no future as a useful dairy cow.

It is difficult to determine the correct type in young animals and to predict their mature form, especially in regard to the characteristics that change with age. However, the young calf and heifer should be evaluated from the standpoint of general frame, with important consideration given to shoulders, top lines, ribbing, and leg conformation. The head and neck should be a combination of femininity with strength, and should blend with the entire frame to indicate dairy quality with ample capacity. Although mammary development is difficult to predict, the placing of the teats receives a good deal of emphasis. The future size of teats can be determined fairly accurately. It is not possible to determine udder shape and strength of attachments in the heifer, except occasionally when the developing udder is poorly carried and placed.

SEVERE DISCRIMINATION FOR OVERCONDITION IN YOUNG HEIFERS

It is extremely important in judging calves and young heifers to give considerable emphasis to their growth and development with no indications of fat or coarseness. *Early fattening of dairy heifers is directly antagonistic to the purpose for which the animal will eventually be used.* The fat accumulates in the udder and many other parts of the body, adversely affecting dairy type and production performance. When dairy quality and refinement are replaced by coarseness and patchiness, productive capacity is greatly reduced and body conformation is poor throughout the individual's shortened life. The resulting firm, fatty udders, with little pliable secreting tissue, and the poor udder attachments lower the level of production. These statements are not based on opinions but on results of carefully controlled feeding experiments at agricultural colleges in the United States as well as in many other countries.

Overcondition shows up in excess fleshing and patchy fat deposits, especially an extreme development of the neck, shoulders, crops, back, loin, and thighs. Deficiency in the region of the crops and lack in spring of ribs in the upper region of the fore ribs indicates underfeeding and improper nutrition, and can be used as a gauge to determine the proper state of nutrition or feeding practices. If excess fleshing and overcondition do not appear until the heifer is pregnant, they are not as serious, and usually disappear as the heifer comes into milk as a two-year-old. Some extra feed is needed to get senior yearlings into moderate condition of flesh after they are pregnant. Thus some extra flesh can be tolerated in the pregnant senior yearling, but never in calves or young heifers, where it must receive a very serious discrimination.

The emphasis on proper growth, without any excess flesh, in calves and heifers again demonstrates the practical application of judging procedures and how an appreciation of type can serve as a guide to improved and practical dairy cattle production.

The above suggests that marked defects should be recognized and discriminated against in heifer judging. It is also important to be more critical on points that have little chance to improve with age and to be more tolerant of those that will improve as the heifer develops. Only a good judge with considerable practical experience can determine accurately the points of conformation that improve with age and, conversely, those that do not. Since overcondition exerts a harmful influence throughout the lifetime of the animal by decreasing production and affecting udder attachment, quality, and general udder shape, discrimination against it is a good example of practical application in judging.

The photographs presented in this chapter supplement the discussion and illustrate good types in young dairy animals. Also, as an example of proper explanations on placings, a set of reasons has been developed for a Holstein heifer class.

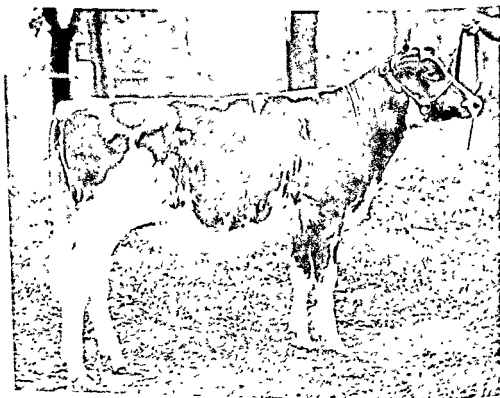


FIG. 301. This Ayrshire heifer, selected as a popular junior champion, exemplifies excellent type in a heifer. Note the strength and growth, without a sign of overcondition.

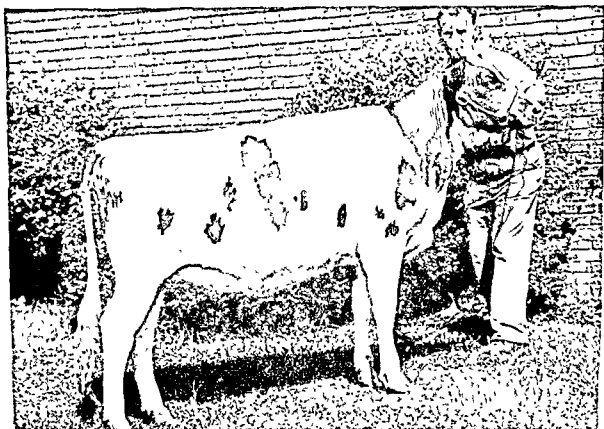


FIG. 302. Prize-winning junior yearling with many of the characteristics of body conformation that she displays as a mature cow, shown in Fig. 303.

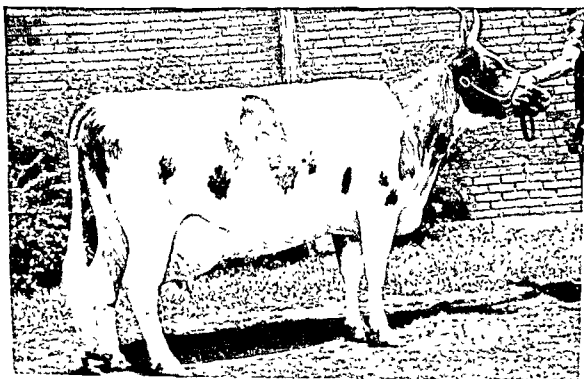


FIG. 303. The Ayrshire heifer shown in Fig. 302 looked like this as an aged cow that had gained prominence in the show ring. Particularly impressive are her dairy character, strength, and capacious, well-attached udder.

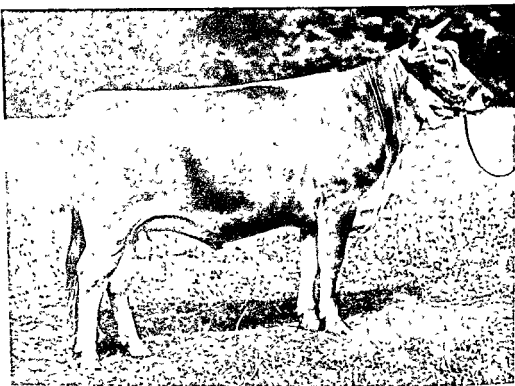


FIG. 304. This prize-winning heifer, pictured as an aged cow in Fig. 305, indicates many of the fine characteristics possessed later as a mature cow. (Courtesy Lee's Hill Farm, New Vernon, N. J.)

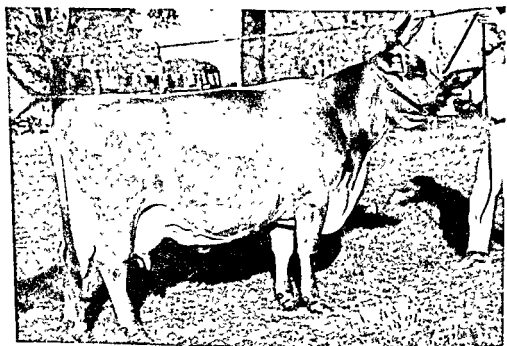


FIG. 305. The breed character and strength about the head and neck and throughout the body of this cow, together with the depth and smoothness of shoulder, the excellent set of legs, the deep ribs, straight top line, and proper size could have been anticipated from the characteristics she showed as a heifer. She is a third-generation champion and several-times winner at national shows. (Courtesy Lee's Hill Farm, New Vernon, N. J.)

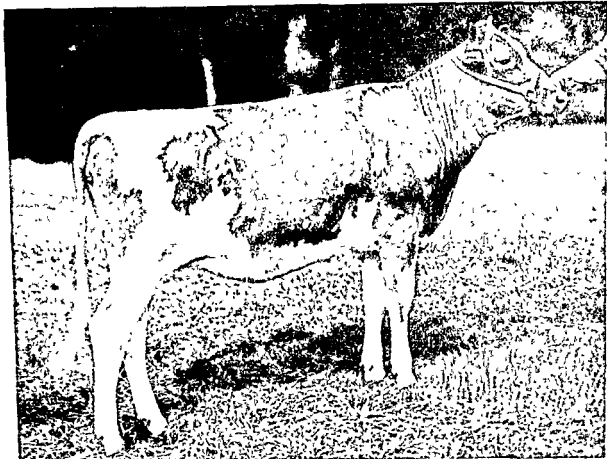


FIG. 306. This All-American Guernsey heifer shows excellent development, with dairy quality and open-ribbed conformation. (Courtesy McDonald Farms, Cortland, N. Y.)

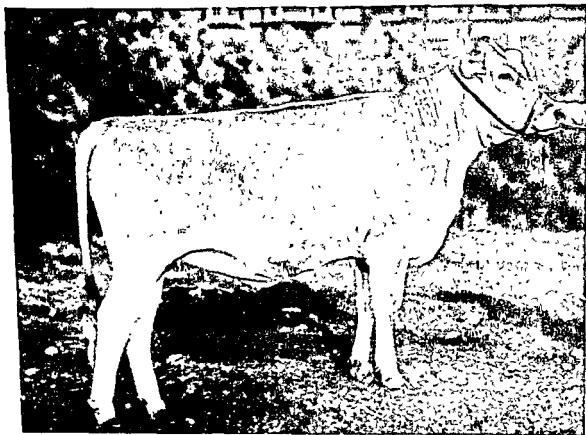


FIG. 307. A junior yearling Brown Swiss heifer in proper show condition. She has outstanding dairy refinement and will almost certainly develop into a useful cow. (Courtesy John Wilson, Hillsdale, Ill.)

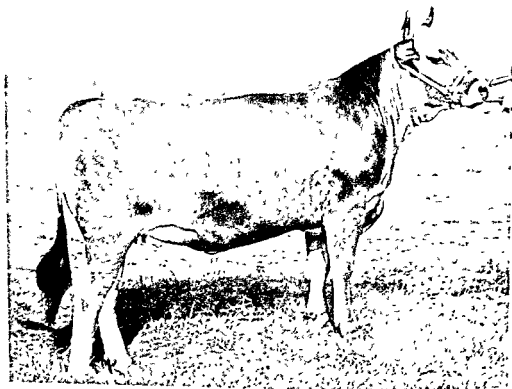


FIG. 308. This senior yearling heifer is overfitted and must be given a discrimination, despite her good conformation and pregnant condition.

FIG. 309. Two-year-old Guernsey cow shows great promise (see Fig. 310). (Courtesy McDonald Farms, Cortland, N. Y.)

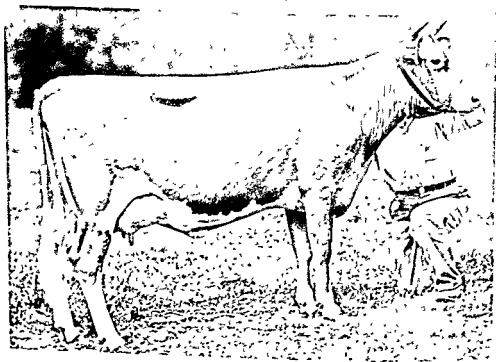
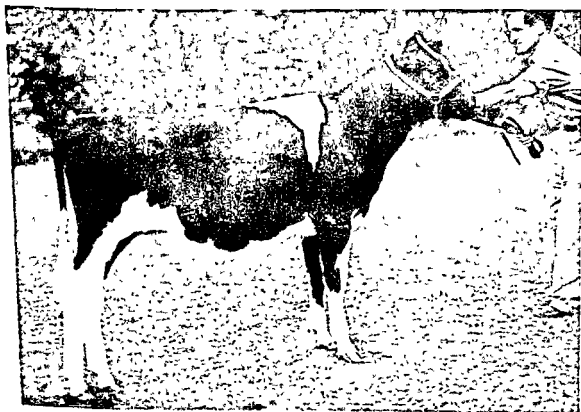




FIG. 310. The 2-year-old shown in Fig. 309 developed into this outstanding mature cow, recognized as one of the great dairy cows of the Guernsey breed. (Courtesy McDonald Farms, Cortland, N. Y.)

FIG. 311. Senior heifer calf displaying good condition, development, and outstanding type. The depth and openness of ribbing, the smoothness of shoulders, and the long, clean-cut neck and refinement about the head combine to demonstrate fine dairy quality. (Courtesy Collins Crest Farm, Malone, N. Y.)



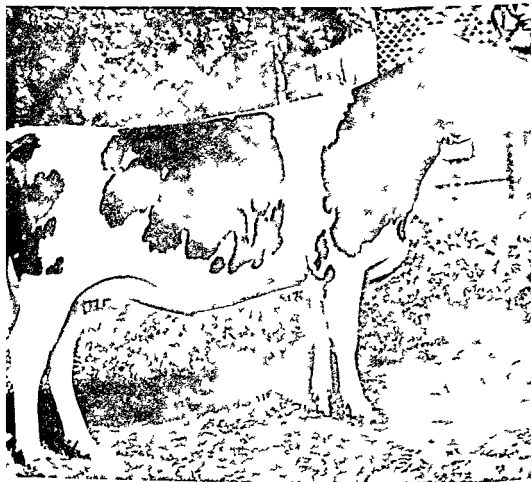


FIG 312 Holstein senior yearling heifer that must be very severely criticized for coarseness and overcondition a serious discrimination. Note specifically the coarse thick head and neck, the heavy brisket, the rough point of shoulder, the lack of prominence at the hips, and the heavy coarse tail head with untidiness about the pins. This heifer has been overfed and her productive capacity, udder quality, shape, and attachments have been ruined.

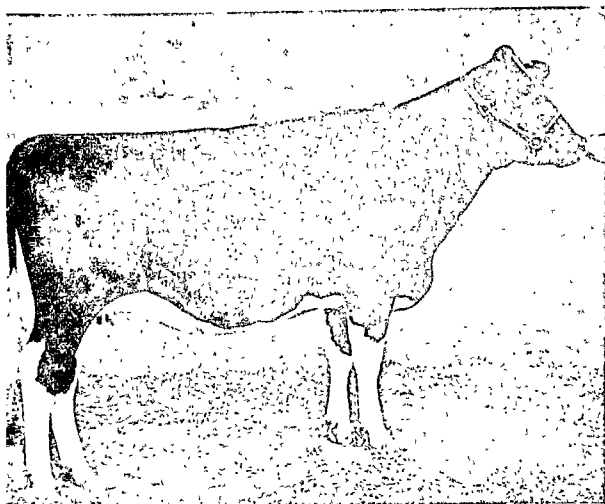


FIG. 313. Attractive senior yearling properly conditioned to display outstanding dairy quality. In contrast to the heifer shown in Fig. 312, she had a successful show record and followed this with an outstanding 2-year-old record under practical farm conditions. Endurance and wearing ability are indicated by her refinement with strength about the head, the long, clean-cut neck, smoothness and depth of shoulder, tidy but deep body with an open rib, flat clean rump, and strong refined bones in her legs and body frame. (Courtesy Collins Crest Farm, Malone, N. Y.)



FIG 314 (A) An ill shaped udder on a heifer. The entire udder is hung too far forward. This combined with a short fore portion results in the whole organ being tilted. (B) The same udder with more development in which the faults mentioned are more pronounced (a serious discrimination)

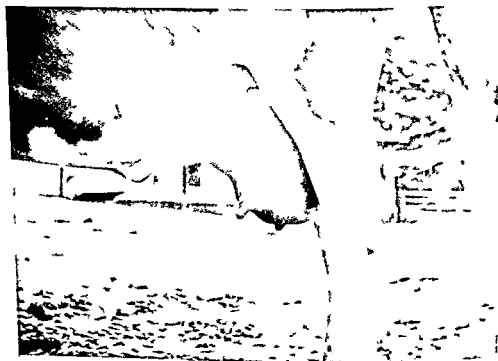




FIG. 315. Satisfactorily shaped udder and attachments, but the teats are placed too close together and bulge at the top to approach a funnel shape at this early stage (a serious discrimination).



FIG 314 (A) An ill shaped udder on a heifer. The entire udder is hung too far forward. This, combined with a short fore portion, results in the whole organ being tilted. (B) The same udder with more development, in which the faults mentioned are more pronounced (a serious discrimination)

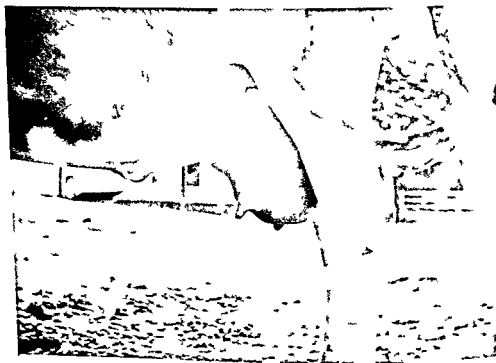




FIG. 315. Satisfactorily shaped udder and attachments, but the teats are placed too close together and bulge at the top to approach a funnel shape at this early stage (a serious discrimination).



FIG. 316. This heifer's udder displays a severe quartering condition and uneven teat development, with too much enlargement of the fore quarter (a serious discrimination).



FIG. 317. Tilted udder caused by a deficient, short fore udder and a rear udder that hangs too far forward (a serious discrimination).



FIG. 318. Well developed udder on a heifer. Note the long, strongly attached fore udder, level floor of udder, and teats of correct size, widely spaced and properly placed on the udder.



FIG. 319. Excellent heifer udder with level floor, long, strong attachments, and teats of proper size and placing.



FIG. 320. Nearly perfect udder on a heifer, with long, strongly attached fore udder, level floor, with widely spaced teats of proper size and proper placing.

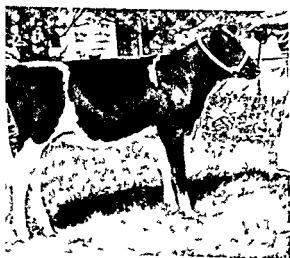
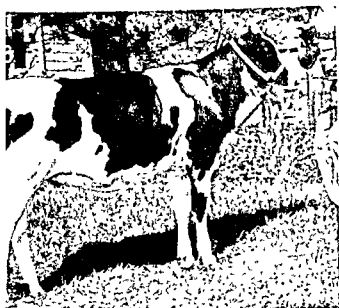


FIG 321 Holstein heifer calf class



REASONS FOR PLACINGS OF HOLSTEIN HEIFER CLASS

This class of Holstein heifers is difficult to place; for the final decision they were lined up in the order of 1-4-2-3. This places the smoothest heifer with the greatest depth of body and most style, symmetry, and balance at the top of the class, and the coarsest heifer, lacking in cleanliness, refinement, and dairy quality in fourth place, with a close middle pair of similar conformation.

Heifer No. 1 is definitely the best in the class and places over heifer 4 because she is stronger with deeper ribs both fore and rear. She also excels in spring of rib. She is much more attractive about the head, where she excels in balance and character, especially about the nose and forehead. Heifer 4 is a trifle plain of nose and short of forehead. Heifer 1 also has a decided advantage in depth from withers to point of shoulder and in smoothness about the point; 4 must be criticized for being too prominent at the point and lacking in strength of shoulder attachment. Both 1 and 4 are excellent through the top line, but 4 must be granted an advantage in flatness and fullness of rump, especially when viewed from the rear. From this view heifer 4 must also be granted a slight advantage in width of rear udder and sharpness at the withers; heifer 1 is a trifle open here. In feet and legs heifer 1 has a definite advantage, with stronger leg bones and pasterns. In comparison, heifer 4 is long and a trifle weak in the region of the pasterns.

Heifer 4 places over 2 for the closest placing in the class. The placing is difficult because heifer 2 follows the general pattern of 1, but 4 is larger, with considerably more development at this age. She is deeper at the heart, sharper and smoother at the withers, where 2 is open and rough and the poorest in the entire class. Heifer 4 has an undisputed advantage in levelness and fullness of rump and refinement of tailhead; also this heifer is the best in the class through the pelvic region. Both 4 and 2 have about the same leg conformation, but 4 has the advantage with a stronger leg bone, even though she had to concede this point when compared with the top heifer. It should be mentioned also that 2 must be granted an advantage through the front quarters, since she displays more style, balance, and Holstein breed character about the head, particularly about the nose, angle of the jaw, and forehead; as well as depth and smoothness of shoulder, with more refinement at the point and a firmer attachment of shoulder.

Heifer 2 places third and over 3 because she is much smoother throughout, with a considerable advantage in blending of parts, especially through the front part of the body. The style, symmetry, and balance of her head, her clean cut and more refined neck, and the great advantage in smoothness of shoulder, particularly at the point, give her consider-

able advantage over 3. Heifer 3 is plain in this region, with some coarseness about the head, which shows a receding forehead, a heavy, throaty condition underneath, and is attached to the body with a short, heavy, and compact neck lacking in dairy refinement. It is also immediately apparent that these two animals differ considerably in dairy refinement and general body type, and that 2 rather than 3 follows the type of the pair selected to head this class. There is a great difference in favor of 2 for smoothness at the point of shoulder, but 3 has an advantage at the withers, where 2 is again criticized for showing open and rough. Heifer 2 is stronger and has an advantage in fullness of heart behind the forearm, and 2 is proportionately deeper in fore and rear ribs, where 3 is somewhat rounding. Both have good rumps, but 2 has a slight advantage in strength of loin.

In making this placing of 2 over 3 for the bottom pair, it is readily admitted that 3 is the largest heifer in the class, and 2 must grant her an advantage in strength of frame, this is indicated by strength of bone in her hind legs, where she has a slightly better set to the hock from both the side and back views. It was previously mentioned that 3 is also granted an advantage at the withers. In placing 3 last, it is recognized that she is the heifer with the most scale in the class and has a good rugged frame, but she is of a different type from the other 3, and lacks in dairy quality throughout, especially in her coarse, plain, head; throaty, short neck; and heavy point of shoulder. She dips slightly at the loin and lacks in natural depth of rib, but must be given credit for the best set of legs and the sharpest withers of any heifer in the class.

19

Judging Group Classes

EVERY animal in a group class should be outstanding in type if the group is to make a strong showing. Uniformity of proper type, with each animal cut according to the same pattern, carries considerable weight. It is especially important that individuals in the same group have no specific weakness in common, particularly in the get-of-sire classes. Maturity is a distinct advantage, provided that the individuals in the group carry their years lightly, indicating good wearing qualities, and that all animals in the group show proper development for their stage of maturity.

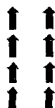
Group classes may present various problems for the judge. A group comprising uniform individuals of better than average type is usually given preference over one in which half the individuals are very outstanding and the others are below the type standard. Normally, age and maturity have an advantage. However, if a group of animals meets these requirements but is inferior in conformation and breed characteristics, the judge is well justified in rejecting these animals in favor of others that are outstanding in type, even though somewhat lacking in age and maturity. Disqualified animals are not eligible to be shown in group classes.

It is always a problem to have two bulls in a produce-of-dam class. Provided that conformation and quality are comparable, there is general agreement that two mature females have an advantage over two males or one male and one female, but occasionally a group of two bulls is superior. For the get-of-sire class, a group of four mature cows is given preference over a group with one or two bulls and three or two females respectively. However, the group with the bulls is often so superior, or the group of four cows so inferior, that the group with the bulls is selected for the top position.

A junior get-of-sire class with one or two bulls is handled in the same way as described for the senior get-of-sire class. For this class, yearling heifers have a distinct advantage over calves; if the yearlings are inferior, however, the judge is justified in selecting a younger group provided that they are uniformly top individuals.

Dry cows in a get-of-sire group should not pose too much of a problem if they are evaluated in accordance with the recommendations in Chapter 16. But a group of four cows for the dairy herd should comprise four cows in milk, in spite of the fact that 20 per cent of the cows in a normal herd are usually dry. Four good aged cows have an advantage over younger cows that have not been properly tried for wearing qualities. A dairy herd with one or more dry cows is at a disadvantage even if the dry cows are *superior in conformation*, and the rules at many shows distinctly specify that the four individuals in the group must be in milk.

For close placings in the group classes, the animals in each group should be lined up in tandem arrangement (head to tail in a straight line) to allow for better detailed comparison. Individual class placings should be kept in mind from the previous classes rather than obtained



from the clerk. When finally placed, each group should be lined up abreast, one group behind the other in order of placing.



The photographs that follow illustrate nearly perfect uniformity of group type, and set a pattern for recognition of outstanding groups.



FIG. 322. Excellent, uniform, junior get-of-sire group consisting of four heifers that are very similar in type and that possess great dairy quality, good bodies, legs, and breed character. Note the straight toplines, which blend into one straight line for the entire group. (Courtesy McDonald Farms, Cortland, N. Y.)



FIG. 323. Ayrshire junior get-of-sire group, with two bulls and two heifers that are very uniform in type and show plenty of maturity. (Courtesy Lippitt Farms, Hope, R. I.)



FIG. 324. These four cows, all about the same size and with excellent udders, comprise an outstanding senior get-of-sire group. (Courtesy McDonald Farms, Cortland, N. Y.)



FIG. 325. This fine senior get-of-sire group won at major shows, even though one cow was dry, because they were highly superior in all other respects. (Courtesy Voegli Farm, Monticello, Wis)



FIG. 326. Jersey senior get-of-sire group. Note the uniformity of Jersey breed character and dairy quality. (Courtesy Meadowridge Farm, Ridgeway, Mich.)



FIG. 327. The daughters of this Holstein bull were so outstanding that they won the All-American get-of-sire designation for several successive years. (Courtesy Rosafe Farms, Brampton, Ontario, Canada)



FIG 328 These two outstanding Guernsey cows make up an excellent produce of dam group (Courtesy McDonald Farms, Cortland, N Y)



FIG 329 This bull and cow were so attractive that they were designated as an All American produce of dam group (Courtesy J M Fraser, Streetsville, Ontario, Canada)



FIG 330 These two famous bulls were individually so outstanding that they won as a produce of-dam group (Courtesy Glenahton Farm, Alliston, Ontario, Canada)

Show-Ring Techniques and Procedures

It is important for the professional judge to supplement his knowledge of cattle and the preferred type with accepted and standardized show ring techniques and procedures, if he wishes to be both popular and successful. In many situations the judge, with the cooperation of the man at the halter, is the "whole show." A really capable superintendent of cattle, however, quietly supervises all details, and can make the show a smooth, interesting, and educational affair, to the general satisfaction of everyone present.

The working procedure and the attitude of the judge should be such that he develops confidence among the exhibitors, and the cattle superintendent should do as much of the policing as possible. The judge is the leader on judging day, and frequently sets the pattern for the attitudes of the participants.

A judge must be completely honest, and should also develop the reputation of treating both the exhibitors and the cattle as though he had never seen them before. Only in this way can a judge make an efficient, fair, and unbiased evaluation of the cattle.

The American Guernsey Cattle Club of Peterborough, N. H., has published a booklet entitled *Showing and Judging Procedures*. This booklet has been very influential in standardizing judging procedures and in eliminating many of the problems that have been so prevalent in the show ring. As a result, the American Dairy Science Association and the Purebred Dairy Cattle Association have adopted these recommendations of procedures. This author greatly appreciates the cooperation of the American Guernsey Cattle Club in granting him permission to use some of the information in this booklet.

BEFORE THE SHOW STARTS

The judge should arrange to be at the show before the scheduled starting time. This will allow him to confer with the cattle superintendent and/or the managers of the show. He can then check on the maximum numbers to place in the various classes, determine the facilities for giving oral reasons, and decide where the classes should be lined up so the animals will be displayed to best advantage for the ringside. It is an advantage for the judge to be familiar with the classification and the total number of classes, as well as the approximate number in each class. It is always appropriate for him to check with the management on the time schedule for the ring, for breaks at meal time, and for closing time.

A judge should never go into the show barns before judging. He should also avoid fraternizing in any way with the exhibitors, either at the show or away from it

SHOW-RING PROCEDURE

The judge should require a high standard of conduct on the part of the leaders while in the ring. He should make requests or suggestions courteously, and should not resort to disciplinary measures except in the rare instances when they are justified and necessary.

A special effort should be made to start exactly on the scheduled time and to keep the show running smoothly by timing the classes properly and by prompt, thorough decisions. The ringside and the exhibitors lose confidence in a slow judge and the whole show drags. A slow judge soon fails to receive requests for his services. To save time, many judges begin to study a new class as it enters the ring, immediately after judging the previous class. This also encourages the exhibitors to bring their animals to the ring promptly.

Entries should move clockwise around the ring, with the judge directing them by hand motions. Some judges prefer to start by thoroughly



studying the class from a distance. Another method is for the judge to observe each animal by standing directly in front of it, then stepping to one side as the animal moves toward him, and then behind the animal and over to the other side as the animal slowly moves by him. When

each animal has been observed and analyzed in this manner, the judge moves quickly around the ring to recall certain features and to fix the over-all picture in his mind. He then motions for the class to come to rest so that each animal can be observed in the same way while in the standing position.

METHOD OF INSPECTION

From the front view, the shape and character of the head and neck, width and depth of chest, and set of legs and feet are observed. The side view permits observations on general style and symmetry; profile of the head; length and leanness of neck; depth of fore and rear ribs; length of barrel; chest capacity; shoulder conformation; topline, including length and levelness of loin and rump; udder size, shape, and texture; set of legs; and many other points of conformation. Observations made from the back view include sharpness of withers; smoothness of shoulders and point of shoulder; spring of fore and rear ribs; width and levelness of loin; flatness and width of rump, especially width of hooks, thurls, and pins; and set of legs, particularly width at hocks and leanness of thighs.

Finally the animal is viewed from the opposite side. Natural defects must be observed and remembered. The entire procedure must be handled with dispatch because for large classes at large shows only about one minute can be spent on each animal. This means about thirty seconds for observing each animal while in motion and another thirty seconds for observation while the animal is standing. Such rapid judging requires eyes carefully trained to see many things at a glance, as well as the ability to make, and retain, a mental record of each observation.

FORMING THE LINE-UP

The class should be lined up in order in the center of the ring. For extremely large and difficult classes, or if insufficient space is available, it may be an advantage to assemble a group of individual contenders side by side before the final ranking is made. This should be done in a different location, and preferably at a different angle, from that used for final placing. In large classes it often is an advantage to do this sorting while the class is in motion, but if space is limited it can be done at any time. This limitation of space may prompt a judge to dismiss part of the class back to the barn. Such action is discouraging to an exhibitor, however, and to avoid placing a stigma on these animals, it is usually better to allow them to remain at one side of the ring. Thus, the exhibitor may stay and watch the proceedings if he wishes, and his animals can still be considered a part of the class. It also gives the judge an opportunity

to reinspect the group perhaps he may even use one or two of these animals in his final lineup.

The first place animal of every class should always stand in the same ring location. After placing the animals and lining them side by side it is a good practice to have close placings led out of the lineup so that they can be compared again before making the final decisions. This technique conveys to the ringside some of the problems in making placings. While the closely placed animals are being led out of the lineup or at other convenient times a special examination can be made of each strong or weak point of conformation to indicate to the exhibitors and the ringside the differences that exist in certain individuals. The two individuals to be compared can be led out either in front or behind the class depending upon available space.

Every possible effort should be made to avoid many changes in placings after the entries have been lined up but occasionally it is necessary and it is better to make a change than to make an obvious mistake. In changing the order a tactful judge will move one animal up in a class rather than move another one down. Only on rare occasions should a switch be made in the top pair. The judge should feel confident of his top placings before he designates the order occasionally however the animal selected for first place falls apart after standing at rest for a while. To check on this it is best to walk in front of and behind the entire class before the final decision is indicated. Some animals fail to retain their poise and form and may sag in the topline, open up in the shoulders, drop out at the point of the shoulders or fall apart in several of these or other parts of conformation. A judge cannot be satisfied with the final lineup if such a situation occurs. He has previously noted the animal's conformation while it was moving and has evaluated it with a composite appraisal to allow for defects in a standing position. If the animal later shows serious defects after standing a change is justified and it will be favorably received by the exhibitors and the ringside. To avoid such a situation though the top placing individual should be studied and observed thoroughly before starting the lineup particularly at a large show where competition is tense and the top placing carries so much importance. A successful and experienced judge will not try to appease a man that complains in the show ring.

It is very important to have all the individuals in the class walk around the ring after they have been lined up in the center. Because of this maneuver a lineup from right to left (Fig. 331) is normally preferred. It is very inconvenient to move an entire class from a left to right lineup (Fig. 332).



FIG. 331. Class of outstanding senior yearling Jersey heifers lined up from right to left. Note how easily the class can be moved clockwise around the ring from this position, in contrast to the line-up shown in Fig. 332. (Courtesy American Jersey Cattle Club, Columbus, Ohio)

When he is satisfied with his order of placing, the judge indicates by a sweep of the hand to the clerk, exhibitors, and ringside that he has made his final decision.

REASONS FOR PLACINGS

It is one of the responsibilities of a judge to give oral reasons; no dairy cattle show should be held without arrangements for the judge to so justify his placings. Loud speaker facilities should always be available for this. To give effective reasons, a judge should train himself to remember the points of conformation he has observed. He should develop the proper vocabulary to make a good impression with positive and con-



FIG. 332. Brown Swiss cow class lined up from left to right. This can be justified if it is more convenient for the space available for judging. Usually the right-to-left order is preferred for ease in moving the class. (Courtesy Brown Swiss Cattle Breeders Association, Beloit, Wis.)

vincing reasons. A good judge will explain graphically to the showmen and the ringside the particular points on which one animal has an advantage over the next. This can and should be done without criticizing which is annoying to an exhibitor especially if his animal is a previous winner. It is much more tactful to praise one particular animal or a part of conformation than to criticize the bad points of another animal.

Reasons for placings should be short and concise stressing only the critical differences of conformation. Thus the time spent in giving them will take very little of the total time allotted for the show. They can be given while the clerks pass out the ribbons and record the placings and while the cattle are moving out of the ring—still another way in which a judge can demonstrate his leadership in working with responsive showmen to the general satisfaction of the ringside.

SUMMARY

The recommendations to the judge for show ring techniques and procedures may be summarized as follows:

1. Arrive at the show before the scheduled starting time.
2. Confer with the management of the show on classification number to be placed, equipment for giving oral reasons, and best place in the ring for the lineup.
3. Do not visit the barns or fraternize with exhibitors.
4. Maintain ring discipline but do not embarrass anyone.
5. Move the class clockwise around the ring.
6. Proceed in an orderly way to analyze each animal, noting its good points and its defects.
7. Make a careful observation from the front view, side view, and back view as the animals are slowly led around the ring; repeat this procedure while they are standing.
8. Make prompt and thorough decisions.
9. Line up the animals from right to left in the center of the ring with the front feet on a higher spot and with the side, quarter side, or rump toward the ringside.
10. Move the class in order around the ring and bring it back to the same place.
11. Lead out and inspect very close placings.
12. Walk along the front and return behind the lineup.
13. Make any changes that are necessary but keep these to a minimum.
14. Motion to the clerk that the class is finished.
15. Give oral reasons over the loud speaker.
16. Lead champion animals in order of age with the oldest first.

Judging of Fitting and Showmanship

THE fitting and showing contests are such an integral part of a junior show that nearly every judge will have an opportunity to officiate at many of these competitive events which demonstrate skill at preparation and exhibition of show animals.

One of the reasons for the popularity of this contest among the juniors at a show is that it stimulates interest in developing superior skill in the management of cattle and displaying them to best advantage. Also it demonstrates to these boys and girls the importance of doing the best possible job of raising, training, and fitting an animal before show day. Attendance at several spirited contests is almost certain to instill love and appreciation of good livestock, as well as tolerance and good sportsmanship.

The poise, skill, attractive personal appearance, responsiveness to directions, courage, courtesy, ability to remain cool and collected under pressure—all of which are needed for participation in the ring in these showing contests—are inspiring, character-building goals for these young people.

Furthermore, in addition to encouraging good animal husbandry, these contests point the way to good feeding and management, proper handling, constructive plans for improvement of type, and the art of good salesmanship, especially preparing and presenting animals to make them attractive to a prospective customer of dairy products or breeding stock.

To develop a standard judging program and to provide a guide for those that participate in fitting and showmanship contests, the Purebred Dairy Cattle Association developed, to the satisfaction of the American

Dairy Science Association a score card for fitting and showmanship contests. Appreciation is expressed for their permission to reprint this information as follows

Uniform Scorecard for Judging Junior Fitting and Showmanship Contests

A Appearance of Animal—40 points

- 1 Condition and thriftiness showing normal growth being neither too fat nor too thin—10 points
- 2 Grooming—10 points
 - a Hair properly groomed and the hide soft and pliable Hair dresser should not be used in excess
 - b Hoofs trimmed and shaped to enable animal to walk and stand naturally
 - c Horns (if present) scraped and polished
- 3 Clipping—10 points
 - a The final clipping should be done about two days before show
 - b Head ears tail udder and elsewhere clipped as needed but not over entire body Belly and udder not to be clipped on heifers that have not freshened and are not springing close
- 4 Cleanliness—10 points
 - a Hair and switch clean and if possible free from stains
 - b Hide and ears free of dirt and legs and feet clean

B Appearance of Exhibitor—10 points

- 1 Clothes and person neat and clean white costume preferred

C Showing Animal in the Ring—50 points

1 Leading—15 points

- a Enter leading the animal at normal walk around the ring in a clockwise direction walking opposite her head on the left side holding a lead strap (or rope) with the right hand quite close to the halter with the strap neatly but naturally (not necessarily coiled) gathered in one or both hands Holding close to the halter ensures a more secure control of an animal
- b Animal should lead readily and respond quickly
- c Halter of right type fitting properly and correctly placed on animal A leather halter with leather strap is best
- d As the judge studies your animal the preferred method of leading is walking slowly backward facing the animal and holding the lead rope in the left hand with the remainder of it neatly but naturally gathered in one or both hands (face forward when leading at all other times)
- e Lead slowly with the animal's head held high enough for impressive style attractive carriage and graceful walk

2 Posing—15 points

- a When posing and showing an animal stay on the animal's left side and stand faced at an angle to her in a position far enough away to see stance of her feet and her topline

- b. Pose animal with feet placed squarely under her with the hind leg nearest to the judge slightly behind the other one.
 - c. Face animal up-grade, if possible, with her front feet on a slight incline.
 - d. Neither crowd the exhibitor next to you nor leave enough space for another animal when you lead into a side by side position.
 - e. Animal may be backed out of line when judge requests that her placing be changed. Many prefer to lead animal forward and around the end of the line or back through the line. Do not lead animal between the judge and an animal he is observing.
 - f. Do most of the showing with the halter lead strap and avoid stepping on animal's hind feet to move them.
 - g. Step animal ahead by a slight pull on the lead strap.
 - h. Move animal back by exerting pressure on the shoulder point with the thumb and finger of the right hand as you push back with the halter.
 - i. When judge is observing the animal, let her stand when posed reasonably well.
 - j. Be natural. Overshowing, undue fussing and maneuvering are objectionable.
3. Show Animal to Best Advantage—10 points
 - a. Quickly recognize the conformation faults of the animal you are leading and show her to overcome them. You may be asked to exchange with another and show her or his heifer for awhile.
 4. Poise, Alertness and Attitude—10 points
 - a. Keep an eye on your animal and be aware of the position of the judge at all times. Do not be distracted by persons and things outside the ring.
 - b. Show animal at all times and not yourself.
 - c. Respond rapidly to requests from the judge and officials.
 - d. Be courteous and sportsmanlike at all times.
 - e. Keep showing until the entire class has been placed and the judge has given his reasons.

A summary of the main points in condensed form follows:

		<i>Points</i>
Appearance of Animal		40
Condition	10	
Grooming	10	
Clipping	10	
Cleanliness	10	
Appearance of Exhibitor		10
Showing Animal in the Ring		50
Leading	15	
Posing	15	
Show animal to best advantage	10	
Poise, alertness, attitude	10	

Before this score card was available, a number of controversial points resulted in a certain amount of confusion among the showmen and in some lack of uniformity in agreement among the judges

Participants who study these directions carefully and follow them before and during the contest should do an outstanding job and place high in competition with others. The judge who uses this information as a guide and works diligently to make an accurate appraisal can make placings that will be above criticism and meet with a general agreement and approval from the contestants and spectators.

Danish System and Combination of Type and Production Judging

THE Danish cattle shows have many features that differ from the shows in other countries, but the Danish system, as applied in this country, usually means classes divided into three, four, or five groups. Ribbons awarded are blue, red, and white. If four or five groups are used, the fourth may receive a yellow ribbon or none at all, and the fifth receives none. Often only the first three groups are used and three different levels of premium money are designated.

The A, or blue ribbon, group comprises the best animals. The quality of this group varies, depending upon the level of the show and the area within the country or particular state represented. Usually, however, the animals included in this group fall within the breed classification of Excellent or Very Good. The B, or red ribbon, group which is intermediate in quality is made up of cattle that classify Good Plus. The C, or white ribbon, group consists of the poorest animals in the class, which classify Good or Fair. Group C is sometimes divided and those animals classified as Fair make up a fourth group for either a yellow ribbon or no ribbon. A fifth group, rarely used, would comprise Poor animals.

Actually, in Denmark all animals in the class are ranked before the class is divided into the groups described above. In America the top few animals, or sometimes those in the blue ribbon group, are usually ranked in order so that a champion can be selected from the different classes. The remaining animals are merely grouped without a rank unless the management of the show requests that all individuals be ranked before they are divided into the group placings.

If the quality of an entire class is below the standard, it is not necessary to have a blue ribbon group. Likewise, if the quality is exceptional, or better than usual, throughout the entire class, it is not necessary to have a white ribbon group. If some of the animals are very inferior, an additional group can be formed, which receives no ribbon or monetary award because the animals are so lacking in type that they should not have been brought to the show for exhibition.

The ardent supporters of the Danish system point out that grouping at various levels demonstrates clearly the importance of type. The system is used more extensively in 4H, county, and district breed shows, where it is important to reward enthusiasm and accomplishments by awarding a number of blue ribbons. The group system of placing lessens the sting of defeat on close placings and gives less limelight or prestige to the winner.

Those opposed to this system of placing feel that it takes away the incentive to strive for the best, and the thrill that comes with winning the top place or nearly top ranking position in a class. They feel also that it provides less opportunity to learn the strong and weak points of an individual. Since there are a considerable number of blue ribbons, it is possible that some exhibitors may become satisfied with too low a standard. The ability to take defeat gracefully is less likely to be learned through this system, and the experience gained from showing is less valuable.

When the Danish system of judging is used, the individuals in each group should be placed side by side, with the groups arranged in descending order, one behind the other. Enough space should be allowed between them to clearly designate each division. If the management of the show wants to rank the blue ribbon group or the entire class before dividing into groups, this should be done without any resistance from the judge. The judge's reasons should call attention to marked differences to stress the importance of type.

TYPE AND PRODUCTION JUDGING

For years breed associations and others interested in herd improvement have wanted to combine type ratings and production accomplishments in order to relate exhibitions more closely to constructive programs of breeding and testing for production.

A milking derby and the selection of a winner on the basis of type and production have attracted considerable attention at some shows. The

Future Farmers of America have considered type, production performance, and pedigrees in their national judging contest. The procedure is described in Farmers Bulletin 1998, published by the U. S. Department of Agriculture.

For many years a considerable effort was made to include production requirements at shows, but so much work was necessary to get authenticated records with the entries that this was slow to catch on with both exhibitors and show management. During recent years, however, so much emphasis has been given to good or poor records of show cattle, especially those ranking close to the top, that most breeders will no longer risk showing a poor producer.

METHOD OF DETERMINING POINTS

Various methods are used for allowing points on production and type, but usually the division is such that half of the score is on the basis of type and half on production accomplishments. Sometimes the highest producer is selected where special emphasis on a cow of high production seems advisable, but, to be eligible for the production class, the cow has to place in the upper half of the class for type alone. This requirement keeps animals of poor type, which do not wear well, out of the production classes. Other methods accomplish the same result with a provision that the cow must score Good Plus or better at the show.

The average of all records should be used, but there is some advantage to using the actual records. This prevents a young cow with only one or two records from getting a marked advantage from mature-equivalent calculations. If the actual records are used, the disadvantage of less production during the first lactation or two is offset, or even justified on the basis of having only one record, which, when built up by the use of mature-equivalent factors, may be unfair to a good old cow with many records.

There are some shortcomings for nearly every method of determining the awards in a type and production contest. However, the following methods of calculation, based on a type score by use of the scorecard, have been used and found reasonably satisfactory:

1. One-half of the type score + .01 for each pound of butterfat produced on a M. E. (mature equivalent) 305-day basis.
2. One half of the type score + $(.09 \times \text{average of butterfat records calculated on a 2X, 305-day, M.E. basis})$ A cow rated Good on type

needs about 600 lbs of fat to compare with a 500 lbs Excellent cow

- 3 One half of the type score + (07 x average of butterfat records on a 2X, 305 day, M L basis) + 1 point for each record used

Examples of Formula No 3

An Excellent cow with 6 records over 600 lbs fat

$$\begin{array}{rcl} \frac{1}{2} \text{ of } 95 & = & 47.5 \\ 600 \times .07 & = & 42.0 \\ 6 \text{ records} & = & \underline{6.0} \\ \text{total score} & = & 95.5 \end{array}$$

An Excellent cow with 5 records over 500 lbs fat

$$\begin{array}{rcl} \frac{1}{2} \text{ of } 95 & = & 47.5 \\ 500 \times .07 & = & 35.0 \\ 5 \text{ records} & = & \underline{5.0} \\ \text{total score} & = & 87.5 \end{array}$$

A Good Plus cow with 7 records over 600 lbs fat

$$\begin{array}{rcl} \frac{1}{2} \text{ of } 82.5 & = & 41.25 \\ 600 \times .07 & = & 42.0 \\ 7 \text{ records} & = & \underline{7.0} \\ \text{total score} & = & 90.25 \end{array}$$

Local conditions within a county or state may warrant special conditions for these classes but they should be formulated in a democratic way by representative dairymen or a show committee within the area preferably with the help of the extension dairyman from the state college. The final decision in selecting a formula to use in making these calculations for type and production classes should be made well in advance of the show and announced in the show classification for the benefit of the exhibitors and the judge.

Grading of Placings for Competitive Judging

THE grading of placings on results both for judging under competitive conditions and for classroom work have passed through various evolutionary stages but are now standardized on a sound basis. At one time, standard cuts were used regardless of the closeness for placing a pair or a class. This procedure was unscientific, and gradually a system was developed whereby the recommended cuts are based on assigned values between the various pairs of animals for each class. These assigned values are based on the degree of difference between two individuals for which the cut is assigned.

Grading for placing can be on the basis of either 50 or 100 for a total score. The basis of 100 has an advantage for classroom work since it permits a direct average of the score for assigning grades in a course. The score of 50 for a perfect placing is preferred for competitive contests because if reasons are graded on the same basis, it will provide 100 points as a total for the placing and the reason grade on a class.

When the grading is on the basis of 100, a maximum cut of 30 will give a score of 0 on a reverse placing. If the grading is on the basis of 50, a maximum total or additive cut of 15 will give a score of 0 on a reverse placing. If five to ten individuals are in a class, as for use in breed and official judges' conferences, the cuts must be correspondingly lower; often there should be only a one point cut between a close pair. If the deductions or cuts are high and the placings difficult for large classes, it is possible to get a minus score. In grading such placings, the actual score assigned should not be less than zero. This avoids overemphasizing one class in calculating the total score.

When the official placing is made for competitive or practice judging, each ring is assigned individual cuts between the respective animals.

These cuts are designated by the official judge in accordance with the extent of the differences that exist in the placings between the animals

Tabulated score cards are available and can be commercially purchased. However, an example on the basis of 100 as a perfect score is cited below to show how deductions are made when the official placing is 3-4-2-1, with cuts of 8, 10, and 4 between the respective pairs

Cuts	8	10	4
Official Placing	3-4-2-1	Score-100	
	3-4-1-2	96	
	4-3-2-1	92	
	3-2-4-1	90	
	4-3-1-2	88	
	2-3-4-1	72	
	2 over 4 deduct	10 points	
	2 over 3 deduct	18 points	
	Total deduction	<u>28 points</u>	
Placing	1-3-4-2	Score- 60	
	1 over 2 deduct	4 points	
	1 over 4 deduct	14 points	
	1 over 3 deduct	22 points	
	Total deduction	<u>40 points—Score 60</u>	
Placing	1-2-3-4	Score- 32	
	To the 40 point deduction above add		
	2 over 4 deduct	10 points	
	2 over 3 deduct	18 points	
	Total deduction	<u>68 points—Score 32</u>	
Placing	1-2-4-3	Score- 24	
	4 over 3 deduct	8 points	
	2 over 3 deduct	18 points	
	1 over 3 deduct	22 points	
	2 over 4 deduct	10 points	
	1 over 4 deduct	14 points	
	1 over 2 deduct	<u>4 points</u>	
	Total deduction	<u>76 points—Score 24</u>	

The above example demonstrates how deductions are determined from various switches in placings with the cuts adjusted according to how obvious the placing appears to the official judge. Only nine different placings of the twenty four possible ones are presented. After some practice it is relatively easy to sort the cards by different placings and assign the proper score to each.

Some prefer to do this systematically, and in many contests it is advisable to keep a record of the score assigned to each placing. In such instances, it is possible to use a special grade sheet (shown at the end of the chapter). The formulas on which deductions are based shorten the time required and increase the accuracy of determining the grade for each of the twenty-four possible placings

The sample following this chapter is reproduced with the permission of Dr. R. Neidermeier, Department of Dairy Husbandry, University of Wisconsin. He uses a separate page for each of the twenty-four official placings possible with a class of four animals. Space does not permit reproduction in this book of each of these sheets. However, the form is the same for each sheet except for the *Placing* column; this column is presented according to the numbers and formulas from one to twenty four respectively. With this information, the reader can make up sets of mimeographed sheets for each of the twenty four placings possible in a class of four animals. After these grading sheets have been made up, one will greatly appreciate the tabulators commercially available for this work. These are carefully checked and entirely accurate.

Although the grading of judging cards is time consuming and often tedious, it is an important part of the work. It helps to make judging still more interesting and stimulating, and forms an incentive to do better work and accomplish more. One should always recheck the grades on all cards and also the calculations on the tabulating or record sheet, as an insurance against mistakes. Accuracy is very important in fairness to each participant of both competitive and practice judging

Ring

Breed

GRADES FOR OFFICIAL PLACING—3 4 2 1

Cuts 8 10 4 *

Official Placing 3—4—2—1

Multiplier	Top	Middle	Bottom
	<i>t</i>	<i>m</i>	<i>b</i>
1	8	10	4
2	16	20	8
3	24	30	12
4		40	

* The placing and cuts of 8, 10, 4 Included for clarification of method here are the same as previously used in this chapter

		<i>Cut</i>		<i>Placing</i>	<i>Grade</i>
1	100—none	or	=	3 4 2 1	
2	100—(b)	or	=	3 4 1 2	
3	100—(m + 2b)	or	=	3 1 4 2	
4	100—(2m + 2b)	or	=	3 1 2 4	
5	100—(m)	or	=	3 2 4 1	
6	100—(2m + b)	or	=	3 2 1 4	
7	100—(t)	or	=	4 3 2 1	
8	100—(t + b)	or	=	4 3 1 2	
9	100—(2t + m)	or	=	4 2 3 1	
10	100—(3t + 2m + b)	or	=	4 2 1 3	
11	100—(2t + m + 2b)	or	=	4 1 3 2	
12	100—(3t + 2m + 2b)	or	=	4 1 2 3	
13	100—(t + 2m)	or	=	2 3 4 1	
14	100—(t + 3m + b)	or	=	2 3 1 4	
15	100—(2t + 2m)	or	=	2 4 3 1	
16	100—(3t + 3m + b)	or	=	2 4 1 3	
17	100—(2t + 4m + 2b)	or	=	2 1 3 4	
18	100—(3t + 4m + 2b)	or	=	2 1 4 3	
19	100—(t + 2m + 3b)	or	=	1 3 4 2	
20	100—(t + 3m + 3b)	or	=	1 3 2 4	
21	100—(2t + 2m + 3b)	or	=	1 4 3 2	
22	100—(3t + 3m + 3b)	or	=	1 4 2 3	
23	100—(2t + 4m + 3b)	or	=	1 2 3 4	
24	100—(3t + 4m + 3b)	or	=	1 2 4 3	

Useful Rules for Competitive Judging

Most endeavors owe their success to effective guiding principles. Some rules to serve as a guide to crystallize thinking and judgment are especially useful to the young judge who cannot be expected to have the self assurance and confidence of an experienced veteran of many judging assignments.

As an illustration of the effectiveness of the rules for competitive judging, the author has in mind a college student, with limited experience and background, who was once judging the difficult classes in the National Intercollegiate judging contest. Several times during the contest this student could not get the classes to "unfold" for him. Nearly every judge has at one time or another had a similar experience. This student solved the problem by turning his back on the classes, calling to mind the ideal types, and asking himself what he should be looking for in each particular class. In almost every instance he found the correct answer, and finally ranked near the top in the contest for judging all breeds.

The rules presented in this chapter have served on many occasions to guide student judges in reaching a sound decision in competitive and practice judging. The professional judge, likewise, will occasionally find these useful in show-ring judging. They offer recommendations for procedure in difficult situations, and thus help to prevent confusion when a problem appears particularly formidable.

The following fifteen rules can serve as a guide to maintain a reasonable degree of uniformity for judging variable type characteristics:

1. The first-place individual should be well balanced, smooth, symmetrical, and of proper size with a deep body, should possess outstanding

dairy character strong legs and a good udder and should be free from any major defects

2 The bottom place individual is the one that appears the most unattractive is unbalanced and lacking in symmetry and has one or more major defects

3 Larger animals place over smaller ones if both are alike in points of conformation In other words size is usually considered an advantage if the animal is not coarse or too large

4 Small but smooth well balanced animals are usually placed over larger animals that have a major defect or over larger animals that lack smoothness and symmetry In other words a small good animal with plenty of quality is preferred to a large one that can be criticized on a number of points

5 In cow classes it is a safe rule for close placings to choose the cow with the best udder Cows placed toward the top of the class should all ways have good udders

6 A broken away or pendulous udder puts the cow at the bottom of the class regardless of other good points of conformation If two or more animals in the class have broken away or pendulous udders they are then placed on points of body conformation but this is the only exception to the rule It should be well established however that the udder is pendulous and this can be determined to a large extent by the next rule

7 If the floor of the udder where the teats attach hangs lower than the point of the hock on the cow's leg the udder is definitely pendulous This is also a good rule for determining whether an udder hangs too low Usually the rule holds true even immediately before freshening but good judgment has to be used after careful study at this time of gestation

8 There are various degrees of deviation for any point that is under consideration The advantage one cow is given over another or the amount of discrimination placed on a certain point depends directly upon the degree or extent of the defect Another point that enters in here is the relative importance of the part that is defective this can be determined from the Dairy Cattle Judging Score Card

9 An animal good or outstanding in all points but one if this point is not too important (this does *not* include the udder) can usually be placed in second position with strong justification Examples of such points are a high tail head heavy withers easy loin and other similar points Assigning such animals to second place indicates that the good qualities are appreciated but that the animal cannot be placed at the top where the deficiency will receive more criticism or objection

10 The legs should be observed while the animal is both in motion

and at rest. The strength and set of the legs can best be noted while the individual is moving. The strength of the fore udder attachment can be studied at the same time, and a swinging udder caused by a loose fore attachment can easily be detected.

11. Each animal should be observed several times to note whether the individual settles when standing in one position. Weaknesses here, that may have been overlooked previously, can definitely influence the placings.

12. In general, the same points of judging, except breed type, apply to all breeds. Brown Swiss and Holsteins are just about the same, except for color, a slight difference in depth of body in favor of the Holsteins, and ruggedness in favor of the Swiss. Refinement is more important for Guernseys and Jerseys, but size is also quite important. Breed type is emphasized somewhat more in the smaller breeds, especially in the Jerseys.

13. Keep the ideal type in mind and the ideal conformation for each specific point, and then select cows (or bulls) for the top placing that most nearly conform to these ideals. A careful analysis of each individual will expose deviations. Always keep in mind that, for cow classes, individuals toward the top of the class must have good udders.

14. The points that should always be given careful consideration and that are most important in judging are size, topline, depth of body, udder, legs, and general appearance, with good breed type, smoothness, and general blending of parts throughout the body.

15. Select cows with outstanding dairy character and general good type and which appear to be the useful, hard-working kind that will wear well with age, when conformation differences begin to resolve themselves into economic values.

Type Classification

THE knowledge gained from a classification program can be very useful in breeding better cattle in individual herds, and in promoting the advancement of the breed in general. Such beneficial results are achieved by emphasizing the practical value of points of conformation in the classification rating. Preference should be given to type characteristics closely associated with the body structure necessary for high production over a long period of time.

CLASSIFICATION AND SHOW-RING TYPE

In classification, as in the show ring, the emphasis is on type characteristic or conformation necessary for a long, useful life with sustained high production, a low incidence of digestive and udder disturbances and freedom from sore feet, bad legs, and other conditions that increase veterinary costs or affect the economic value of a cow. To effect the desired type characteristics in an animal, the most stress should be placed on udder conformation, body capacity, dairy character, feet and leg structures, muscle tone, constitution, and general strength, together with smoothness of parts, as evaluated in the section on general appearance.

The skilled and experienced official type-classifier recognizes that there is a right and wrong body shape for proper dairy type. He discriminates against a cow with a heavy, compact, round body because this indicates that the animal converts a larger amount of feed into body maintenance and fat than does a cow with more dairy quality. He discriminates also against a cow with a pinched heart girth, narrow chest, marked deficiency in the crops, shallow fore or rear ribs, or very flat body, because she obviously lacks in lung, heart, and feed handling capacity and hasn't the strength or constitution to stand the rigorous requirement for high production year after year.

Usually there is general and close agreement between show-ring placings and official type-ratings, but there are numerous and well-justified exceptions. For type classification, the emphasis is entirely on the way the cow appears in the stanchion from the standpoint of production and breeding purposes. Unbalanced quarters and other notable deficiencies are evaluated differently for the two purposes. For example, a blind quarter in the show ring is a disqualification, but for classification this receives only minor criticism if due to an injury or infection. Likewise, a side leak on the teat is evaluated much differently in the show ring than during classification.

In the show ring a cow of recent freshening is often given more of an advantage over a stale cow toward the end of her lactation than is true for classification. Body changes due to age are often considered from a more favorable viewpoint in classification than for show-ring purposes, where the emphasis is on utility factors *plus* beauty, charm, and gracefulness, for which the advantage always rests with youth.

MECHANICS OF TYPE CLASSIFICATION

Official type classification for each breed of dairy cattle is administered by men appointed by the respective breed associations specifically for this work, either on a full-time or part-time basis. Uniformity in classification has been accomplished by periodic judges' conferences, which enable the classifiers to get together and study type objectively so that all classifiers agree closely on the preferred type and select individuals of similar type for each designated classification.

Various type classification brackets can be used: Excellent for 90 per cent or over; Very Good, 85 to 90 per cent; Good Plus or Desirable, 80 to 85 per cent; and so on through Good or Acceptable, Fair, and Poor. A numerical score is used for some breeds, and there also are some differences in the range assigned to the last three classifications.

Since each breed association has information available on details of type classification for its breed, and since changes are made from time to time, this information is not presented here.

EVALUATION OF CLASSIFICATION RATINGS

It is only human to wish to excel in any form of competition or rating, and there is no doubt that the Excellent classification is overemphasized among the breeders in classification programs. It is much better to think in terms of the percentage or number of cows in the herd that have a score of 80 or above in type. Any cow with a classification rating of 80 per cent or better is potentially a fine cow from a breeding standpoint and is eligible for consideration when selecting foundation offspring

for either male or female animals. Most cows with this rating are superior to the average and progress is possible from breeding individuals in these groups. Many bulls or cows descended from such a sire or dam have made a great contribution to the breed.

Probably the Excellent rating has been overemphasized by many breeders because only a small percentage of individuals receive this high recognition. More emphasis should be placed on the Very Good and Good Plus individuals and on the undesirability of a classification below this. The lower classifications very likely indicate one or more glaring weaknesses which are usually transmitted, thus ruining a breeding program from the standpoint of type. When one or more decided weaknesses have been bred into a herd, it often takes generations to correct the fault and breed away from it. Prevention, therefore, is a recommended procedure. Classification information can be most helpful in this regard by providing recorded data that cannot be obtained elsewhere. Finally, to reach the highest pinnacle in breeding for outstanding type, the Very Good or Excellent individuals should be preferred as dams and sires.

A recommended practice is to evaluate the transmitting ability of a sire by observing how many of his daughters rate 80 per cent or above in type and how many are below this level. The information is more valuable if the type classification of the dam is available for comparison. This is one of the reasons why a continuous classification program should be followed by a breeder.

A classification program has many other advantages. It helps to complete the type information available for the ancestry shown on a pedigree, which can be very useful in planning a scientific breeding program and in correcting certain faults and weaknesses in a herd or family group. To get maximum benefits from the program, the breeder should cull *after* classification, rather than before.

Many scientific breeders are now successfully using the classification ratings on the subpoints to evaluate the possibility of selecting future herd bulls. This practice often saves considerable expense in travel and time, since much of the preliminary work in making a selection can be done at home. Some breeders will choose a bull that comes from the right kind of a Good Plus cow with a Very Good udder, in preference to one from a Very Good cow with a Good Plus udder. Most breeders, however, insist that the dams of their herd sires have a Very Good or Excellent for the over all and udder classifications.

Classification has also been found very useful in predicting the type characteristics of offspring from bulls in artificial breeding, and has thus eliminated much of the guess work in the use of such bulls. It also points out weaknesses that should not be introduced into a progressive breeding program.

PICTORIAL EXAMPLES OF TYPE CLASSIFICATION

The Holstein cows pictured in Figures 333 to 338 have Excellent, Very Good, Good Plus, Good, Fair, and Poor classifications, respectively. These pictures are made available through the courtesy of the Holstein-Friesian Association of America at Brattleboro, Vermont. The cow with the Excellent classification possesses a remarkable udder, great dairy character, very deep fore and rear ribs, outstanding topline and set of leg, and is free from any weakness in her entire conformation.

The Very Good cow is typical of this classification. She has superior dairy quality, an unusually good top, especially in the rump, and a very good fore udder. She has to concede depth of ribbing, rear udder, and legs to the Excellent cow. The Good Plus cow can be considered on the lower side of this classification. She has excellent conformation and style through the front half of her body, but is a trifle wavy over the top, falls off at the rump, and although her udder is acceptable and well attached, it hangs too far forward, cuts up too abruptly, and is tilted in the fore udder, with a faulty teat placement.

The Good cow, which also can be considered on the lower side of this classification, has good depth of body, a straight topline with a flat rump,



FIG. 333. An Excellent cow. Score—95.



FIG 334 A typical Very Good cow

but lacks a trifle in dairy quality has loose fore and rear udder attachments and too much set in her hind legs

The cow with the Fair classification has miserable legs weak pasterns and long shallow feet Her topline and loin are poor and the pelvic region is out of shape owing to the bad legs She is also rough in the shoulders and although she has a strong frame she is lacking in thriftiness Her udder is still functionally sound but hangs too far forward and cuts up too abruptly in the fore udder The Poor cow is small weak shallow of body has an ill shaped udder and does not possess a strong point throughout her odd and irregular conformation



FIG 335 A Good Plus cow



FIG. 336. Example of a Good cow.



FIG. 337. Example of a Fair cow.

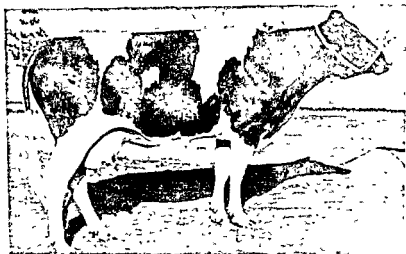


FIG. 338. A Poor cow.

The four Jersey cows shown in Fig. 339, numbered from 1 to 4, classify Excellent, Very Good, Good Plus, and Good respectively.

Since a set of reasons has been developed for four of the breeds, but not for a Jersey class, these four cows have been used for this purpose. Reasons will then have been provided for a class of every breed, and at the same time the differences that exist between these four cows of a different classification described.



FIG. 334 A typical Very Good cow.

but lacks a trifle in dairy quality, has loose fore and rear udder attachments, and too much set in her hind legs

The cow with the Fair classification has miserable legs, weak pasterns, and long, shallow feet Her topline and loin are poor, and the pelvic region is out of shape owing to the bad legs She is also rough in the shoulders, and although she has a strong frame, she is lacking in thriftiness Her udder is still functionally sound, but hangs too far forward and cuts up too abruptly in the fore udder The Poor cow is small, weak, shallow of body, has an ill shaped udder, and does not possess a strong point throughout her odd and irregular conformation



FIG 335 A Good Plus cow



FIG. 336. Example of a Good cow.



FIG. 337. Example of a Fair cow.



FIG. 338. A Poor cow.

The four Jersey cows shown in Fig. 339, numbered from 1 to 4, classify Excellent, Very Good, Good Plus, and Good respectively.

Since a set of reasons has been developed for four of the breeds, but not for a Jersey class, these four cows have been used for this purpose. Reasons will then have been provided for a class of every breed, and at the same time the differences that exist between these four cows of a different classification described.

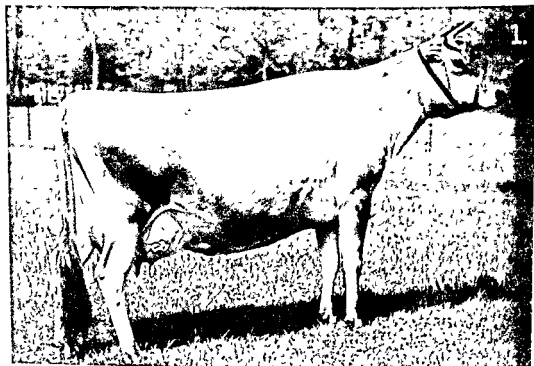
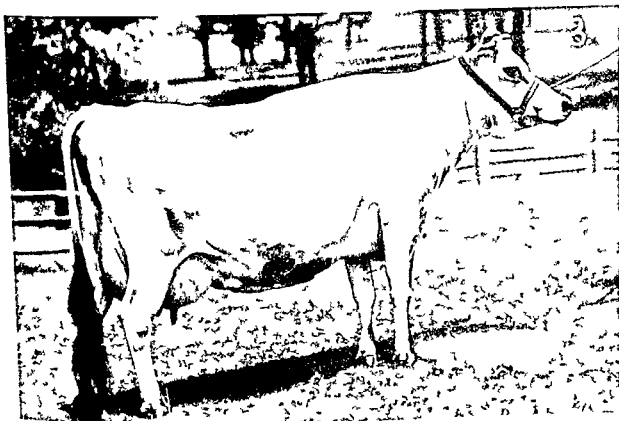


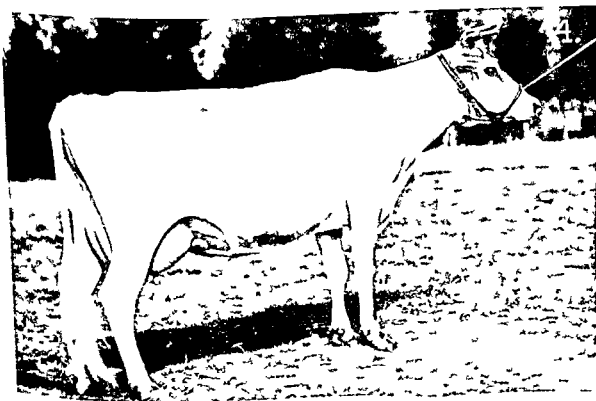
FIG. 339. Cow No. 1. An Excellent cow—score 90 or better.



Cow No. 2. A Very Good cow—score 85 to 90.



Cow No 3 A Good Plus cow—score 80 to 85



Cow No 4 A Good cow—score 75 to 80

REASONS ON JERSEY COWS

This class of aged cows can be placed with a great deal of confidence, for they easily fall in the order 1-2-3-4. As a matter of fact, the only ones that require a second look are the top pair, and both cows must be considered outstanding. However, 1 places over 2 because she is cleaner and sharper through the head and neck, smoother at the point of the shoulder, deeper in the heart and barrel, a trifle stronger in the back, and definitely longer and more refined over the pelvic region. Both cows must be criticized for having a trifle too much set to their hind legs, but here again 1 has an advantage. Both cows have remarkably fine udders with 1 excelling in udder veining and smoothness of fore attachment, Cow 2 must be granted an advantage in strength of rear udder attachment and also has a decided advantage in depth of shoulder, as indicated by the greater length from withers to point of shoulder.

Cow 2 easily places over 3 because she has considerable advantage in her head, rump, and udder conformation. The head of 2 displays more Jersey character, especially in her dish is better proportioned, has greater strength along the side of the jaw, more flare to the nostril, and considerably more strength about the muzzle. Cow 2 has a great advantage in topline, showing a trifle stronger in the loin and her rump is much more level from hips to pins and over the top than that of Cow 3, which is narrow and pinched at the pins. Cow 3 is also too prominent at the tail head. Cow 2 has another great advantage in her longer udder which is higher, wider, and stronger in rear attachment and longer, stronger, and smoother in fore attachment. The teats on 2 are also much better placed. Both cows have deep bodies but 2 has some advantage in depth of heart and barrel. In making this placing 3 must be granted an advantage in dairy refinement about the neck, since 2 is somewhat short and not as sharp in this region. Cow 3 also must be granted a decided advantage on legs. Her strong flat bones with correct set of hock easily give her the best legs in the entire class and 2, with the greatest set to her leg, has the poorest hind legs in the class.

Cow 3 places over 4 because she is larger with a great advantage in general strength throughout. This is indicated by a much stronger neck compared to the ewe neck on 4, by a great advantage in depth of both fore and rear ribs and also in spring of rib. This difference in general strength is also displayed in the region of the shoulder, Cow 3 has deep strong shoulders and 4 a shallow weak shoulder structure. Both cows are somewhat faulty in their udders but 3 has a stronger fore attachment teats of more appropriate size and a higher rear attachment. Both cows must be criticized in the pelvic region. Although 4 has a niche on top of the rump, she must be granted an advantage in this region because

she is wider at the pins and preferable at the tail head, in contrast to the high, coarse tail head and narrow, pinched pins on 3. Cow 3 has stronger bone in her legs, is stronger in the pasterns, and has a slightly better set to her hocks, but 4 has the second best legs in the class. In placing 4 at the bottom, she should still be given credit for her sharpness and dairy character, but she is too small and frail of body to capitalize on this. She has the least depth and the poorest udder of any cow in the class, but it must be recognized that she is second only to 3 in respect to legs.

CHANGES IN TYPE CLASSIFICATION

In classifying young cows, one should look at a cow objectively, predict what she will be like as a mature cow, and classify her accordingly. It is poor policy to appraise a young cow for a low classification with the idea that she can be raised at a later date. Some cows will be removed from the herd because of disease before the next classification. Also this is unfair to a sire when comparisons are made for his daughters with the type classification of their dams. For these reasons and several others, it is important that young cows be appraised according to their age with special emphasis to give them a classification comparable to their final mature rating. In recommending this it is realized that some cows do change and improve with age as shown in Figs. 340 (A and B).

In the final analysis, some variation can be expected for a cow due to: (1) age; (2) stage of lactation, with a slight advantage to cows in heavy production as compared with dry cows or cows beyond the middle of their lactation; (3) degree of fleshing, including cows in good or poor condition, cows overfitted or too fat, and cows in extremely poor condition; (4) sick or injured cows; (5) marked changes in conformation, especially breakdown of the udder (Fig. 341 A and B), legs, topline, and changes in shoulder conformation. However, all of these variations can be kept at a minimum if the classifier looks at a cow objectively and realizes that every normal herd always has some individuals in the various categories described. A truly great cow will look the part at all stages and ages, as illustrated in Fig. 342 A, B, and C; this is an Ayshire cow that classified Excellent eight times in succession, and appears young at twelve years of age.

OTHER FORMS OF TYPE APPRAISAL

A type appraisal sheet designed a few years ago by the men in animal husbandry extension work at Cornell stresses type characteristics and many utility points, such as milking qualities, feeding habits and temperament, incidence of breeding trouble, and other diseases, such as

mastitis ketosis and milk fever The information for this type rating which has been widely used for offspring from bulls in artificial breeding is placed on both sides of one page and is presented in this form on pages 289 and 290

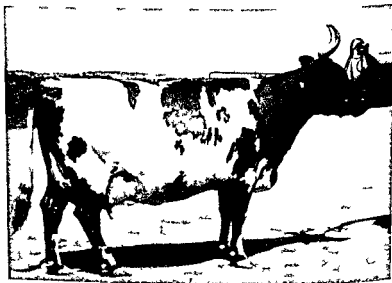
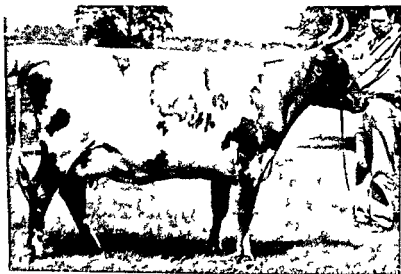


FIG 340 (A and B) The improvement made in type as some cows mature is demonstrated in these two pictures of the same cow As shown in the top picture she was classified Good Plus at 4 years of age and well advanced in lactation As shown in the lower she classified Excellent at 6 shortly after freshening (Courtesy Hoard's Dairyman Ft Atkinson Wis)

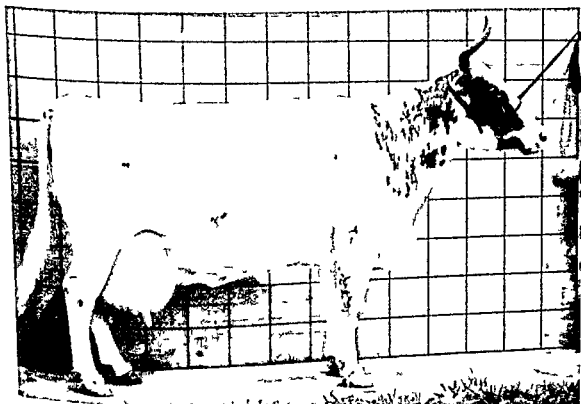


FIG. 341 (A and B). The top picture shows this cow when she classified a high Very Good at 8 years of age. Below, at 9, she dropped to a Good Plus rating, owing to her udder breaking away. This cow illustrates the need for reclassifying rather than for allowing a cow to stand on her highest rating. (Courtesy Hoard's Dairyman, Ft. Atkinson, Wis.)



FIG. 342 (A, B, and C). This Ayrshire cow classified Excellent regardless of age or stage of lactation. (A) 8 years of age, in full bloom; (B) 10 years of age, with collapsed udder and dry; (C) at the age of 12 years. This cow truly deserved the high rating of Excellent eight times in succession because she carries her years lightly at 12, when most cows are no longer productive. (Courtesy Hoard's Dairyman, Ft. Atkinson, Wis.)

DAIRY TYPE APPRAISAL RECORD
Prepared by New York Animal Husbandry Extension

E.T. Reg. _____ Barn Name _____ Reg. Sire _____ E.T. Dam Reg. _____
 Age _____ Yr. _____ Mo. Breed _____ Last Date Fresh _____ Owner _____ Date _____

TEMPERMENT

Quiet 1
 Nervous 2
 Dull, Stolid 3

FEEDING HABITS

Aggressive Feeder 1
 Average Feeder 2
 Finicky, Slow feeder 3

INCIDENCE OF MASTITIS

No Mastitis 1
 Mastitis 1st lactation 2
 Mastitis - Injury 3
 Mastitis - Other causes 4

KETOSIS - MILK FEVER

No Ketosis - Milk Fever 1
 Afflicted - Ketosis 2
 Afflicted - Milk Fever 3
 Afflicted - Both 4

BREEDING TROUBLE

No breeding trouble 1
 Cystic Ovaries 2
 Other breeding troubles 3

MILKING QUALITIES

Milks out fast 1
 Milks out in 5-6 min. 2
 Milks out slow 6 min. + 3

MILK LEAK

Non-leaker 1
 Leaks Milk 2

TAPPED WEIGHT

Lbs. _____

DAIRY CHARACTER

Sharp 1
 Moderate 2
 Coarse or Thick 3

HEAD

Typical 1
 Plain 2
 Coarse or Beefy 3

NECK

Lean 1
 Thick 2

SHOULDER

Not winged, tight 1
 Slightly winged, loose 2
 Severely winged 3

WITHERS

Sharp 1
 Medium 2
 Heavy, Coarse, Open 3

BACK (Hip to Shoulder)

Straight 1
 High Chine 2
 Low Loin 3
 Low Chine 4
 Roached 5
 Sway Back 6

HIND LEGS**SIDE VIEW**

Nearly Straight 1



Intermediate 2



Sickled 3

HIND LEGS**REAR VIEW**

Toe-out; none to slight 1



Moderate toe-out 2



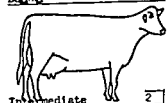
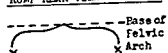
Severe toe-out 3

PASTERNS

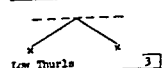
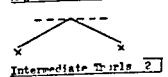
Normal 1
 Intermediate 2
 Weak 3

REAR LEG MOVEMENT

Free 1
 Cramped 2

DEPTH OF BARREL**RUMP REAR VIEW**

High Thurls, Square 1



Low Thurls 3

WIDTH OF PIN BONES

Wide 1
 Intermediate 2
 Narrow 3

HUMP LEVELNESS
& TAIL SETTING

Nearly level,
smooth pelvic
arch, neat tail
setting. 1

Nearly level,
notched pelvic
arch. 2

Nearly level,
high pelvic
arch. 3

Nearly level.
High tail head. 4

Slightly slop-
ing, relatively
smooth pelvic
arch and tail
setting. 5

Plain with low
tail setting. 6

Coarse tail
head. 7

Sloping. 8

* Finger width
= Hand width

UDDER SHAPE
REAR FORE

UDDER TEXTURE

Collapsed after milking 1
Intermediate 2
Heaty 3

DEPTH OF UDDER - Age considered

Deep (not below hock) 1
Intermediate 2
Shallow 3
Too Deep (below hock) 4

LEVELNESS OF UDDER FLOOR

Nearly level 1
Slight tilt 2
Fore higher than rear, both level. 3
Pronounced tilt 4

WIDTH & HEIGHT
OF REAR UDDER

"WIDE"
2+ HW 1
Wide & High 6
Wide & Inter. 1
Wide & Low 5

"INTERMEDIATE"
1 1/2 - 2 HW 2

Inter. Width & High 2
Inter. Width & Height 3
Inter. Width & Low 7

"NARROW"
Less - 1-1/2 HW 3

Narrow & High 4
Narrow & Inter. Height 6
Narrow & Low 8



Fear Shaped 9

STRENGTH OF UDDER
ATTACHMENT

1 Strong 1
2 Intermediate 2
3 Loose 3
4 Broken-away 4

UDDER HALVING
REAR VIEW

Cleft 1-2 FW 1
2-3 FW 2
More than 3FW 3
Floor nearly flat 4

UDDER QUARTERING
SIDE VIEW

Floor nearly flat 1
Cleft 1-2 FW 2
2-3 FW 3
More than 3FW 4

TEATS
SHAPE

1 Cylindrical 1
2 Bottled 2
3 Funnel 3

4 Pencilly 4

5 Bulbous 5

6 Large, thick 6

LENGTH

1 3-4 FW 1
2 Less than 3 FW 2
3 More than 4 FW 3

POSITION

1 Plumb 1
2 Pointing forward 2
3 Pointing sideways 3

PLACEMENT

Well spaced 1
Rear too close 2

SideView, Close 3

All bunched 4

Front too wide 5

ABNORMALITIES

Skeletal 1
Udder 2
Miscellaneous 3

CONCLUDING REMARKS

In the final analysis, both the highly specialized dairy cattle breeder and the practical dairyman can justify considerable emphasis on type with the provision that high production accompanies it.

The judges have not always had all the answers, but neither have the critics of type and judging. The critics have usually dealt with exceptions, and have magnified isolated cases entirely out of proportion to their importance.

Type characteristics have considerable influence on correct management practices. A good example is the discrimination against fat in heifers, which later impairs udder quality and production.

The emphasis on type is not an academic development at all, but is demanded by the breeders of good cattle. In England and in some of the European countries, judging is not a part of the curriculum at the colleges. However, the dairymen are more type-conscious than those in America, and the livestock men demand emphasis on type.

Good type or eye appeal helps make sales of surplus males and females. The owner, or his hired representative, who appreciates good type gets more satisfaction and enjoyment out of his cattle, which is often reflected in better care and the resulting higher economic returns.

The extensive participation in breed shows and classification programs, involving thousands of dairy cattle each year, indicates the importance that practical dairymen attach to type. This interest is justified because type does exert a remarkable influence on high lifetime production; there is a close relationship between profits and type. In actual practice the emphasis on type decides whether the man should be listed as a practical dairyman or just a producer of some milk and dairy beef.

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